

The Book of ABSTRACTS



Juvenes Pro Medicina 2020

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External Affairs Coordinators: Karolina Adamczyk, Joanna Forycka

Graphic Designer of JPM 2020: Natalia Siwecka

Keynote Lectures Organizing Team: Natalia Siwecka, Bartosz Lenda

Chief IT Officer: Jędrzej Chrzanowski

IT Support: Krzysztof Przystał, Jan Przystał, Artur Jaszczak

Organizing Committee:

Katarzyna Kwas, Jędrzej Chrzanowski, Oliwia Kwaśniewska, Aleksandra Łosiewicz, Adrianna Cieślak, Filip Karuga, Jagienka Szulc, Natalia Siwecka, Katarzyna Zapart, Aleksandra Zielińska, Bartosz Lenda, Aneta Basiak

Book Editors:

Editor-in-Chief: Jędrzej Chrzanowski, Katarzyna Kwas

Typesetting and Editorial: Katarzyna Zapart, Aleksandra Zielińska

Graphic Designer: Natalia Siwecka





Dear Colleagues,

on behalf of Students' Scientific A ssociation at the Medical University of Lodzitis our pleasure to meet you at the 58th Polish and 16th International Conference Juvenes Pro Medicina 2020. This year, Juvenes Pro Medicina Conference for Students and Young Doctors brought together over 500 active participants, which is a remarkable success. This is of the upmost importance in the year of global SARS-CoV2 pandemy. Juvenes Pro Medicina was one of 3 International Medical Conferences which remained it's planned date and only slightly altered the form of the Conference. Due to the common work of Organising Committee, International Affairs Team and IT Group, we were able to host the Juvenes Pro Medicina 2020 completely on-line, at the same time decreasing the price of the conference to the lowest level since 2000.

The 2020 edition of JPM is about to be the 16th international conference organized by the Students' Scientific A sociation. Each year, we are facing new challenges, which only motivates us to push ourselves to the limits. This year, despite the tense international restrictions, especially concerning the international travel, we ware able to provide Keynote Lectures in greater scale than ever before, hosting 3 international guests. With your support, we have also reached over 900 submitted abstracts. As a result, we have opened 32 student session, during which young researchers presented their works! This also resulted in over 35% of international participants, which is the new high score for the Juvenes Pro Medicina conference!

The objective of our conference is to create an international, scientific event for young scientists, where they can share and present their best work. Juvenes Pro Medicina addresses the challenges and opportunities in different medical fields and brings together young students, scientists and doctors to exchange, debate and network. The conference is held in Łódź, Poland, the 3rd largest Polish city, and has its own unique industrial atmosphere. We have confidence you will find the conference stimulating and rewarding.

//Katarzyna Kwas

President of JPM 2020 Conference

Jędrzej Chrzanowski

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Anesthesiology and Emergency Medicine



Coordinators: Marta Głowacka, Michał Borkowski,

Jury:

dr hab. n. med. Dariusz Timler, dr n. o zdrowiu Tomasz Sikorski, dr n. med. Przemysław Dobielski,

Comparison of Invasive and non-invasive Temperature Measurement in Intensive Care Patients

Author(s): Martyna Jauniškytė Vilnius University, Lithuania Presenting author: Martyna Jauniškytė Tutor(s): Lukas Balciunas

INTRODUCTION: Esophageal temperature probe is an invasive temperature measurement method, which remains recommended in Intensive Care Unit (ICU) because non-invasive methods correlate poorly with the body 's core temperature. Although the risk of complications is low, there can still occur incidences of esophageal injurie.

AIM OF THE STUDY: This prospective analysis was carried out to compare accuracy of three different non-invasive temperature measurement methods: axillary temperature measured with electronic thermometer (ET), gallium-in-glass thermometer (GT) and temporal artery temperature measured with InfraRed thermometer (IRT) versus esophageal temperature.

MATERIAL AND METHODS: Temperature was simultaneously monitored with esophageal, IRT and with axillary ET and GT. For the esophageal temperature, temperature probes were inserted 40 cm from the incisors. For the axillary and temporal artery temperatures, measurements were carried out three times repeatedly for the accuracy. Axillary thermometers were placed for 3-4 min over the axillary artery. Patient's inclusion criteria were SOFA score of ≥ 3 , intubation and sedation.

Agreements between invasive and non-invasive blood pressure methods were assessed using Bland-Altman analysis and t-test. All summarized values are presented as mean \pm SE. P-value of less than 0,05 was considered statistically significant.

RESULTS: In total, 38 patients were analysed. A total of 99 temperature measurement comparisons were carried out. One to 10 temperature measurement comparisons were carried out per patient (median=3). 55,3% of patients were male. The mean age was $64,4\pm18$, SOFA score $10\pm3,3$. The esophageal temperature ranged from 30,7 textdegreeC to 38,9 textdegreeC. The mean differences between esophageal temperature and those of the different non-invasive methods studied were: axillary temperature measured with ET $(0,30\pm0,69$ textdegreeC), axillary with GT $(0,16\pm0,68$ textdegreeC), temporal artery temperature with IRT $(-0,07\pm1,17$ textdegreeC). All thermometer readings were grouped according to temperature values: hypothermia (<35 textdegreeC), normothermia and hyperthermia (>37,5 textdegreeC). The results of esophageal temperature measurement were considered as a reference standard. 73,7% of all axillary temperature measurements with ET matched the results of the reference group, compared to 74,7% of temperature readings done by a GT and 69,7% by IRT (p<0,05).

CONCLUSION: In critically ill patients, non-invasive (axillary and InfraRed) thermometers are not as accurate as invasive esophageal thermometer.

The role of BMI in prediction of some inclusion and outcome data of ICU patients - a retrospective study

Author(s): Dominik Andrzej Panasiuk, Aleksander Turczynowicz Kacper Luchowski, Karolina Niedzielska Medical University of Białystok, Poland Presenting author: Dominik Andrzej Panasiuk Tutor(s): Urszula Kościuczuk

INTRODUCTION:

Body mass index is a parameter that is rarely used in patient monitoring and prognostic process at ICU. Although, it may be useful to predict some clinical data and this will allow preparing appropriate diagnostic and treatment solutions.

AIM:

The aim of the study was to analyze the role of body mass index as a prognostic parameter in hospitalization process, if there is a correlation between index and some inclusion data, and if there is an BMI impact to the final result of treatment, and check if there is a possibility to extend some scores, like SOFA and APACHE II with BMI.

MATERIALS AND METHODS: The study was conducted after obtaining the consent of hospital director and chief of the department. Medical documentation of patients admitted to the Department of Anaesthesiology and Intensive Care, Medical University of Białystok between 09.11.2018 and 10.12.2019 was studied

and data: age, sex, BMI, department of admission, length of stay (LOS), duration of mechanical ventilation, duration of renal replacement therapy, levels of creatinine, bilirubin, lactate and procalcitonin measured at admission, SOFA and APACHE II scores at admission, need of vasoactive medications, and the final effect of medical treatment - death / discharge were noted. Exclusion criteria: patients under 18 years old. Data were analyzed using STATISTICA 12.5 and Microsoft Excel 2013.

RESULTS:

The data of 80 patients was analyzed. The characteristic data of patients were: 33 females, 47 males, mean age 66 SD=16,55, BMI - mean 27,92 SD=7,45). The structure of admisssion was: 35 - surgical departments, 22 - Emergency Department and ambulance crew, 23 - Internal Diseases Department. The data connected with hospitalization were: mean length of stay 11,96 days, mean time of mechanical ventilation 9,84 days, 16 patients underwent renal replacement therapy - with mean time of implementation of this therapy 1,4 days. Finally, 48 patients were discharged and 32 patients died. Statistically significant correlations between patient 's BMI and levels of creatinine (r=0,3007; p=0,007) and bilirubin (r=0,3669; p=0,00) measured at inclusion, SOFA (r=0,3127; p=0,005) and APACHE II (r=0,2887; p=0,009) scores obtained at inclusion were observed. Odds Ratio (OR) of death correlated with patient 's BMI was 1,05 [95% CI (0,95-1,05)] in the whole group of patients. In relation to the patient admitted from I.D.D OR was 1,09 [95% CI (1-1,11)] and in S.D OR was 0,92 [95% CI (0.90-1.06)], respectively.

CONCLUSIONS: Body mass index can be used to predict ranges of some clinical data measured at inclusion to ICU. We can use BMI to extend SOFA and APACHE II scores screening possibilities, but it requires further observations. BMI impacts on the final effect of treatment in general group of patients and patients admitted to ICU from internal diseases departments.

Can routine blood tests help in early pathogen identification during bacteremia?

Author(s): Justina Kaklauskaitė Vilnius University, Lithuania Presenting author: Justina Kaklauskaitė Tutor(s): Raimundas Stasiunaitis

Introduction

Bacteria with different cell structure induce immune response in different way which can be reflected in differences in blood tests. Pathogen identification before primary blood culture results could lead to efficiency in treatment, however this has not been sufficiently explored using routine blood tests. Empiric antimicrobial therapy for bacteremia remains an issue due to its uncertainty and long wait of blood culture results.

Aim

To test if bacteria cell structure contains antigens which stimulate immune response and may lead to differences in blood tests between different species of pathogens.

Methods

Retrospective cross-sectional study has been performed in Vilnius University Hospital Santaros Clinics. All patients treated in hospital from 2016-01-01 to 2016-12-31 with at least one positive blood culture were analysed. Each incidence of positive blood culture was considered as a separate case. Pathogens were grouped according to gram stain (Gram positive/negative) and to their cell structural elements (capsule; lipoproteins; Braun's lipoprotein; lipotechoic acid; glycosildiacilglycerols). Data regarding patient's primary disease, treatment, blood tests and positive culture results in different foci of infection were collected.

Results

A total of 463 patients were included. 264 (57%) of them- male. Mean patient age- $61 \pm 18,25$ yrs. Patients diagnosed with bacteremia caused by bacteria with capsule and Braun lipoprotein had lower relative eosinophil count $(0,6\pm0,18\%)$ with capsule and $1,01\pm0,15\%$ without, p=0,031; $0,46\pm0,09\%$ with Braun's lipoprotein and $0,93\pm0,13\%$ without, p<0,001). Bacteremia caused by bacteria with capsule, lipoproteins and Braun's lipoprotein had lower total lymphocyte count $(0,8\pm0,04*10~9~l$ with capsule and $1,01\pm0,05*10~9~l$ without, p=0,001; $0,81\pm0,04*10~9~l$ with lipoproteins and $0,98\pm0,05*10~9~l$ without, p=0,002; $0,77\pm0,05*10~9~l$ with Braun's lipoprotein and $0,95\pm0,04*10~9~l$ without, p=0,002). Presence of either lower relative eosinophil count than 0,25% or lower total lymphocyte count than 0,715*10~9~l had sensitivity of 89,9% and specificity of 45% for detecting bacteria with Braun lipoprotein as bacteremia causing agent. C reactive protein levels in patients diagnosed with bacteremia caused by bacteria with lipotechoic acid, glycosildiacilglycerols and Gram positive bacteria had higher $(220,1849\pm11,42158mg/l)$ with lipotechoic acid and $172,48\pm6,2mg/l$ without, p=0,001; $212,86\pm10,66$ mg/l with glycosildiacilglycerols and $173,7\pm6,4mg/l$ without, p=0,005; $208,84\pm10,5mg/l$ Gram positive vs $174,67\pm6,46$ mg/l Gram negative, p=0,023). Bacteria with lipotechoic acid and C-reactive protein higher than 189 mg/l had sensitivity of 58,8% and specificity of 63,4%.

Conclusions

Elements of bacterial wall structure are related to differences in immune response and levels of relative eosinophil count, total lymphocyte count and C-reactive protein concentration. There is a need to research these differences in future prospective studies.

Recovery of the diaphragm thickness after extubation: an ultrasound study

Author(s): Greta Kygaitė Vilnius University, Lithuania Presenting author: Greta Kygaitė Tutor(s): Lukas Balciunas

Introduction

Multiple studies have shown that severe intensive care unit (ICU)-acquired diaphragm atrophy develops in a large percentage of mechanically ventilated (MV) patients and is associated with poor clinical outcomes and difficulty weaning. However, no follow-up studies were made, analysing the recovery of diaphragm thickness.

Aim of the study

The aim of this study is to analyze the recovery of the diaphragm thickness using ultrasound and evaluate possible causal factors.

Material and methods

Patients who were newly intubated for at least a three day period and had no previous diaphragm-related diseases were enrolled into this prospective study. Diaphragm ultrasound assessments were performed on the first day of intubation and three days after extubation.

Results

A total of 33 patients were enrolled. Mean loss of the diaphragm thickness during intubation was 0,03 mm (SD \pm 0,01). Mean recovery after a three day period was 0,02 mm (SD \pm 0,02). Mean thickness recovered was significantly (p = 0,01) higher in men than in women. Age did not have a significant correlation (p = 0,08) with the recovery, although a tendency of a faster recovery in younger patients could be seen. The length of the intubation did not correlate (p = 0,123) with the mean thickness recovered.

Conclusions

These findings indicate that diaphragm thickness does not return to control level even three days after extubation. Slower recovery group includes female and older patients. Therefore, breathing rehabilitation, assisted coughing devices should be considered in an ICU setting.

Ignoranta iuris nocet - law knowledge assessment regarding the first aid in Polish society

Author(s): Anna Wiesner, Remigiusz Chrostek Diana Marańska, Urszula Chrostek Wrocław Medical University, Poland Presenting author: Anna Wiesner Tutor(s): Mateusz Paplicki

Introduction

The necessity of the first aid is regulated in Polish law by Act on Emergency Medical Services, The Criminal Code, Traffic Code or the Employment Code and others. It should be noted, that witnesses of an accident are morally and legally obliged to provide first aid.

Aim of the study

The aim of the study was to assess Poles 'knowledge about legal regulations regarding first aid.

Materials and methods

The anonymous online survey was performed on 686 respondents. The survey included a knowledge test consisting of 10 questions about legal aspects of first aid.

Results

The vast majority of respondents (97.1%) know that they are obliged to provide first aid to a victim of an accident even if they are not properly trained. According to the public opinion (82%), calling the ambulance itself is not a sufficient form of providing first aid in life-threatening situation. Only 77.8% of respondents know that not providing first aid results in criminal liability. About 8% of respondents are convinced that, if they are not trained, the consequence of providing first aid by them may be a prison sentence or financial compensation for the victim (21.9%). Only 32.9% of respondents are aware of the fact, that if their material goods have been damaged during first aid providing, they can get reimbursement by the State Treasury. People who completed the first aid course and drivers provided statistically more correct answers (p <0.05).

Conclusions

The respondents are aware of the legal obligation to provide the first aid. Some citizens may have doubts about providing first aid because they do not know the law that protects first-aiders. First aid courses allow you to gain knowledge not only in the field of practical assistance to the victims, but also its legal aspects.

Comparing the effects of sevoflurane and desflurane on postoperative cognitive function

Author(s): Evaldas Kauzonas Vilnius University, Lithuania Presenting author: Evaldas Kauzonas Tutor(s): Vilma Kuzminskaite, Egle Kontrimaviciute

introduction

While postoperative cognitive dysfunction (POCD) is a common complication of general anaesthesia potentially presenting with deleterious effects to patient cognitive function and quality of life in both the short and long term, progress in the field is required, as not even a universal definition of POCD has been accepted to date. This is especially worrying considering the aging general population and the accompanying increase of surgical interventions. Even though s tudies have shown that the use of different anaesthetic agents is associated with differing rates of POCD prevalence, the optimal choice is yet to be discovered.

aim

Our randomised double-blind clinical study aimed to compare the effects of sevoflurane and desflurane on short-term postoperative cognitive functions.

material and methods

Regional bioethics committee approval and written participant consent were acquired. Patients who were diagnosed with neurological, cognitive or psychiatric disorders, or refused to participate at any point, were excluded. The participants, all elective thyroid surgery patients, performed tasks designed to test short- and long-term memory, attention, and logical reasoning 1 day before and after surgery, and filled out questionnaires to assess presurgical depression, anxiety, and health-related quality of life. Prior to surgery, closed envelopes were drawn by the anaesthesiologist to assign patients to their respective group. Demographic, anthropometric, and postoperative satisfaction data were gathered. Data analysis was performed in IBM SPSS Statistics. POCD was defined as an overall test-score reduction of 20%.

results

Data of 82 participants were included in the final analysis, with 48 in the sevoflurane group and 34 in the desflurane group. 82.9% were women, while patient age was 52.71 (+-14,71) on average.

No statistically significant differences between the sevoflurane and desflurane groups were observed in terms of sex, age, education level, smoking status, anxiety, depression, duration of anaesthesia, subjectively reported postoperative condition or pain. 1 patient (1,2%) fit our criterion for POCD. No statistically significant differences of pre- and postoperative overall test scores were observed in the entire study population $(95,32\pm16.71$ vs. $94,70\pm16.18$, p=0,806), sevoflurane $(94,27\pm18,19$ vs. $92,39\pm17,27$, p=0,361) or desflurane groups $(96,82\pm14,50$ vs. $97,96\pm14,12$, p=0,452). The sevoflurane and desflurane group presented similar changes in post-surgical test scores $(-1,25\pm11,25$ vs. $1,61\pm8,91$, p=0,222). No significant differences between the anaesthetic groups were observed even when comparing the separate memory, attention, and logical reasoning task scores (p=0,34; 0,431; 0,556 respectively).

conclusions

No statistically significant differences in cognitive test scores were observed between the sevoflurane and desflurane groups. As such, both anaesthetic agents may overall be considered equivalent in terms of POCD risk.

Factors Impeding Optimal Preoxygenation in Emergency Patients

Author(s): Evaldas Kauzonas, Miglė Kalinauskaitė Vilnius University, Lithuania Presenting author: Evaldas Kauzonas Tutor(s): Ruta Januleviciene, Egle Kontrimaviciute

INTRODUCTION

Preoxygenation (PO) is a standard procedure performed prior to intubation. The goal of PO is to reach >90% in end-tidal oxygen concentration (EtO2), which indicates a sufficient reserve of oxygen in the lungs to maintain saturation during temporary apnoea. In case of difficult tracheal intubation this protects from arterial oxygen desaturation - a risk factor for arrythmia, haemodynamic decompensation, hypoxia, and death. Adequate and fast PO is especially important in emergency situations. Thus, predicting the likely effectiveness of standard PO for different patient groups is essential.

AIM OF THE STUDY

The aim of the study was to determine factors that affect the speed and ability to perform adequate PO for emergency patients.

MATERIAL AND METHODS

Regional bioethics committee approval and written patient consent were acquired. The study was registered on ClinicalTrials.gov. Patients hospitalized for emergency surgery (ASA status E) under general anaesthesia were included in the study. PO was performed by the anaesthesiologist conducting the study. Patient demographic data, comorbidities, risk factors for poor PO (beard, lack of teeth, etc.), vital function indicators, medications, and anaesthesia machine parameters were collected. The PO goal was set as EtO2>90% within 5 minutes. Statistical analysis was performed using SPSS 26.

RESULTS

18 participants were included in the analysis. 10 (56%) were male, aged 60 ± 24 , mean body mass index (BMI) 27 ± 5 kg/m 2. The PO goal was achieved in 13 patients (72.2%), with the average time to EtO2>90% (TTE) being 180 ± 66 s. The likelihood of achieving optimal PO did not correlate with ASA, Mallampati scores or number of risk factors for poor PO (p=0.182; 0.827; 0.666 respectively). A negative correlation between the number of comorbidity affected systems and optimal PO was observed (-0.551; p=0.018), while a positive correlation was seen between pre-procedural SpO2 and optimal PO (0.64; p=0.004). In the optimal PO group, TTE was increased by BMI (0.598; p=0.031) and the number of risk factors for poor PO (0.627, p=0.022). Higher average EtO2 values correlated with the likelihood to reach goal PO (0.817; p<0.001) and shorter TTE (-0.651; p=0.016).

CONCLUSIONS

Preoxygenation is a vital part of anaesthesia and must be conducted quickly, and effectively. A quarter of patients in our study did not receive optimal PO within 3-5 minutes, which may be related to the number of comorbidity affected systems, higher BMI, and known risk factors of poor PO.

Central venous catheter associated infection in intensive care unit

Author(s): Liāna Linda Līce Rīga Stradiņš University, Latvia Presenting author: Liāna Linda Līce Tutor(s): Maris Liepins

Introduction. Central venous catheter (CVC) is very important for provisioning critically ill patient's vital functions in clinical practice, but it also can cause complications, which therefore can increase the number days a patient is hospitalized, treatment costs and overall patient mortality rate. A central line- associated bloodstream infection (CLABSI) is one of the most common hospital- acquired infection in Europe, which is an important factor as a cause of increasing mortality.

Aim. The aim of this study is to define central venous catheter associated infections, including topical wound infections at the catheter entrance, catheter colonization and laboratory approved central - line associated bloodstream infection frequency and correlations with associated risk factors in half year period in Riga East University Hospital intensive care units. Materials and methods. Retrospective study includes patients who had given blood samples from central venous catheter in the half year period in 2019 in Riga East University Hospital. Clinical data was provided by the patient's medical history and microbiological laboratories electronical information system. Collected and processed in IBM SPSS Statistics 23 using statistical tests as Chi test, Fisher exact test, Mann Whitney test, Spearman correlation test. P value smaller than 0.05 was determining to be statistically significant. Results. Research includes 62 patients whose median age was 69 year (interquartile range from 56.8 to 77). Central venous puncture was performed 113 times on enrolled patients. Topical wound infections at the catheter entrance were found in 6 cases (5%), CVC colonization was found in 17 cases (15%), but CLABSI with clinical sepsis in 4 cases (4%). Total number of catheter days per patient (p < 0.001), hospitalization days (p < 0.001), number of catheter changes (p < 0.001), catheter malfunction (p < 0.001), topical wound infections at the catheter entrance (p=0.043) were defined as influencing factors in the development of CVC colonization. Other factors, that were considered at first, did not show statistical significance. Moderate correlation was found between CVC colonization and total number of catheter days per patient (r=0.55, p < 0.001), hospitalization days (r=0.54, p < 0.001), number of catheter changes (r=0.47, p < 0.001), catheter malfunction (r=0.454; p=0.001), topical wound infections at the catheter entrance (r=0.29, p=0.023).

Conclusions. CVC infection and CLABSI are common in Riga East University Hospital intensive care units. Future research should include more patients over a longer period, which could help to define influence of other risk factors in CVC infection development.

Modes of death of children in the national pediatric intensive care unit in Latvia.

Author(s): Valērija Raubiško, Jekaterina Grigorjeva Rīga Stradiņš Uniersity, Latvia Presenting author: Valērija Raubiško Tutor(s): Reinis Balmaks

Introduction

The death of a patient in pediatric intensive care unit (PICU) is rare; the overall mortality in Latvia is at only 2%. Nevertheless, decision making at the end of life for children is among the most important and profound professional responsibilities for the clinicians who care for them.

Aim of the study

To analyze modes of death among children admitted to the PICU and the characteristics of the patients that died following a decision to limit or withdraw life-sustaining treatment (LST).

Material and methods

This is a retrospective, descriptive study examining all deaths at the PICU of Children's Clinical University Hospital (Riga, Latvia) from January 1, 2011 to December 31, 2019. We defined five modes of death: brain death (BD), death whilst on full support, failed cardiopulmonary resuscitation (CPR), withholding and withdrawing LST. Chronic complex condition (CCC) - any medical condition that last at least 12 months and to involve several different organ systems or 1 organ system severely enough to require specialty pediatric care. Statistical analysis was performed by using IBM SPSS Statistics 22.

Results

There was a total of 149 deaths. The modes of death were as follows: BD - 31 (20.8%); death whilst on full support - 19 (12.8%); failed CPR - 57 (38.3%); withholding of LST - 31 (20.8%); withdrawal of LST - 11 (7.4%). Among the patients (73%, n=103) who died during the first week of admission the most common modes of death were failed CPR (44%, n=48) and BD (25.7%, n=28). Patients, who died after the first week of admission, more commonly died following WLST (50%, n=20). Majority of patients who died (69.8%, n=104) had CCC. While 37 (35.6%) of patients with CCC died following WLST, still the most frequent mode of death was failed CPR (38.5%, n=40). For patients under palliative care treatment was withheld or withdrawn in 64.3% (n=18) of cases. Palliative patients have $\tilde{7}$ times higher chance that treatment will be withheld/withdrawn compared to non-palliative group (95% CI 2.979 - 17.767),p<0.001.

Conclusion

This is the first study to describe epidemiology death among critically ill children in Latvia. We discovered several shortcomings, particularly regarding the end-of-life care of patients with CCC. These data will help to improve the quality of palliative care and guide end-of-life decisions for critically ill children in Latvia.

How should we teach CPR? Comparison of CPR parameters during training and high fidelity simulation.

Author(s): Diana Marańska, Urszula Chrostek Magdalena Towarek, Remigiusz Chrostek Wrocław Medical University, Poland Presenting author: Diana Marańska Tutor(s): Lilianna Styka

Introduction: The proper conduct of resuscitation procedures is crucial for the survival of patients after cardiac arrest. The situation in which you need to use the first aid skills in practice can be extremely stressful for witnesses of accidents. Fear and stress may result in lower quality of rescue operations.

Aim of the study: The aim of the work was to check the quality of CPR in training and simulation situations to reflect real situations.

Materials and methods: The study used the "Resusci Anne QCPR" mannequin, measuring the parameters of CPR. 15 people participated in the study - medical students trained in the first aid. The study consisted of two parts. In the training part, the respondents were conducting a resuscitation for 2 minutes, in the simulated test part the scenario of sudden loss of consciousness of the elderly man at the railway station was presented. The students 'task was to check for breathing, call for help, send witnesses to the AED and conduct a 2-minute CPR. The results of CPR parameters in both groups were compared.

Results: 13 people performed worse resuscitation procedures during simulation, computer program rated average CPR during training at 89.85%, and during simulation AT 81.77%. Particularly large differences were visible in the quality of compressions, whose average score during the training was 91.08%, and during the simulation 76%. Interestingly, during the simulation, a higher mean compression frequency was found, amounting to 124.8 /minute, which is higher than the frequency recommended by the ERC. The correct speed in the range from 100-120 compressions per minute was found in 10 students during the training and only 3 during the simulation. During the training, the average number of compressions with the appropriate depth was 83.93%, and with appropriate relaxation 68.77%, while during the simulation the values were lower and amounted to 74.7% and 59.6% respectively.

Conclusions: The decrease in the quality of resuscitation during simulation may be a proof of a decrease in the quality of CPR procedures in clinical settings. It is important to conduct classes in simulation conditions, preferably simulations of high fidelity. This will best prepare students to use knowledge in practice.

Management of Pheochromocytoma—Induced Takotsubo Cardiomiopathy

Author(s): Laura Baltruskeviciute, Domas Bubulis Vilnius University, Lithuania Presenting author: Laura Baltruskeviciute Tutor(s): Agne Jankuviene, Ruta Januleviciute Smilte Kolevinskaite, Egle Kontrimaviciute

INTRODUCTION: Pheochromocytoma is a rare catecholamines secreting adrenal tumor. Increased circulating catecholamines are associated with Takotsubo cardiomyopathy, however rarely Takotsubo-like cardiomyopathy can be due to pheochromocytoma. The only treatment for pheochromocytoma is a resection but only after hemodynamic stability and full *alpha*-blockade are achieved.

CASE REPORT: A 39-year-old woman with a history of 2 hospitalizations due to severe hypertension (180/125mm Hg), treated with captopril (25mg) and bromazepam (3mg), was admitted to the emergency department due to heart failure. On admission, she reported shortness of breath, heart palpitations, general weakness, headache, sweating, and nausea. Her blood pressure was 85/55 mm Hg, a supraventricular tachycardia (160bpm) was noted, oxygen saturation was 86%. The level of troponin peaked at 817.4 ng/l. Computed tomography showed a heterogeneously enhancing mass - a giant pheochromocytoma (size, 107 texttimes 93 texttimes 137mm) in the left adrenal gland as well as pulmonary oedema. Pheochromocytoma was confirmed by serum levels of free metanephrine (2.092nmol/l) and normetanephrine (1171nmol/l). Transthoracic echocardiography showed hypokinesia of mid-ventricular walls and dilatation of the left ventricle with a reduced ejection fraction (35%-40%). The echocardiographic findings suggested Takotsubo cardiomyopathy. A multidisciplinary team decided on surgical removal of the pheochromocytoma as soon as hemodynamic stability and full alpha-blockade were achieved. Intensive care unit (ICU) treatment started with infusions of norepinephrine $(0.15\mu g/kg/min)$ and dopamine $(5\mu g/kg/min)$. Then, an intra-aortic balloon was inserted, and urgent renal replacement therapy was commenced. Left laparoscopic adrenalectomy was performed which later conversed to laparotomy due to significant blood loss (2.5 liters). The surgery was initiated on day 17 of hospitalization, exactly after 10 days of phenoxybenzamine treatment. The patient was discharged on the 22nd day of hospitalization. One month after the surgery, serum free metanephrine and normetanephrine reached normal levels.

CONCLUSIONS: A case report of a giant pheochromacytoma in a middle-aged woman that manifested as acute coronary syndrome is presented. Successful stabilization of the patient's condition, medical therapy and consequent left adrenalectomy treated the patient's heart failure.

METHABOLIC CHANGES CAUSED BY PNEUMATIC TOURNIQUET DURING TOTAL KNEE ARTHROPLASTIC SURGERY

Author(s): Dmitrijs Bodrovs Riga Stradiņš university, Latvia Presenting author: Dmitrijs Bodrovs Tutor(s): Iveta Golubovska, Silvestrs Zebolds

Introduction: In orthopedic surgery pneumatic tourniquet applies during total knee arthroplasty (TKA) to decrease perioperative blood loss and to create better view of surgical field. Bellow the area of application tourniquet induces ischemia of muscles resulting in soft tissue damaging. There is progressive cellular hypoxia and acidosis in the occluded limb. Muscle is more susceptible to ischemic damage than nerve.

Nevertheless 85% of surgeons in the Hospital of Traumatology and Orthopaedics still use it without paying attention to possible muscle damage and methabolic changes such as decreased pH, pO2, increased lactic acid, pCO2 and K+ levels, which produce pathophysiological changes when released in general circulation.

Aim of the study:Discover metabolic changes in skeletal muscle tissue by application of the tourniquet during TKA and compare results with control group of patients.

Materials and methods:Prospective study was conducted in the Hospital of Traumatology and Orthopaedics after Ethics Committee approval. 40 patients TKA were assigned to tourniquet group (T) (n=20) and non-tourniquet group (C) (n=20). Duration of tourniquet application was from 60 to 90 minutes. The pressure of tourniquet was always around 300 mmHg. Blood samples were collected 1 hour after tourniquet application in the T group and before sewing soft tissue in C group. For blood sampling were used i-STAT CG8+Point-of-care probes which allows obtain blood gases, glucose, electrolytes, hematocrit and hemoglobin levels in approximately two minutes. Data were statistically analyzed by Microsoft Excel programme.

Results:Significant difference was detected between two groups, which were caused by tourniquet application. Ischemia inducted by tourniquet resulted in mild acidosis in 55% of patients in T group. In 40% of T group cases pH range was normal. 75% of patients in C group had normal pH range 7.35-7.45. Other 25% of C group has elevated pH with highest value 7.604.

pO2 in T group was decreased in 90% of cases with average value 40.75 mmHg and 75% of all group had value < 50mmHg what is defined as hypoxemia. Lowest value 26.0mmHg, while in C group pO2 value is increased in 100% of cases from 108 to 145mmHg. in T group was below 90% in 95% cases with average value 73.4% and lowest value 61%, while in C group in 100% cases was 100%.

HCO3- in T group was decreased in 80% of cases with lowest value 12.6 mmol/l, while as C group in 75% has elevated indicators with highest value 27.5mmol/l.

Glucose in T group was decreased in 60% of cases with lowest value 2.1 mmol/l, while as C group in 90% of cases had normal glucose level and 10% had decreased glucose level with lowest value 3.8mmol/l.

Conclusion: This study demonstrates that usage of tourniquet during TKA surgery is associated with significant ischemia in muscles followed by decreased levels of pH, pO2, sO2, HCO3- and glycose causing toxic methabolites produce pathophysiological changes when released in general circulation.

Basic Science



Coordinators: Magda Barańska, Magdalena Kowalczyk,

Jury:
prof. Masahiro Ohsawa,
prof. dr hab. n. med. Jakub Fichna,
dr hab. n. med. prof. nadzw. Wojciech Fendler,
prof. dr hab. n. med. Maciej Borowiec,
dr n. med. Agata Gabryelska,

Application of the Tokuyasu method to demonstrate the presence of trace protein antigens of the Epstein-Barr virus (EBV) in thyroid biopsies

Author(s): Mateusz Ożóg, Marta Nowak Oliwia Warmusz, Hubert Mado Medical University of Silesia, Poland Presenting author: Mateusz Ożóg Tutor(s): Edyta Reichman-Warmusz

Introduction: The EBV virus is a human herpesvirus, which in latent form is associated with an increased risk of developing Burkitt 's lymphoma. However, detection of viral proteins in latent form may cause many difficulties due to the low expression level or it is impossible to determine by routine methodsused.

Aim of the study:

The aim of the study was to applicate the Tokuyasu method for detection of selected viral proteins in thyroid sections taken from patients with autoimmune thyroid disease (AITD).

Material and methods:

Thyroid thick needle biopsy under ultrasound was taken from 3 patients with clinically confirmed AITD. The obtained biopsies were fixed in a 2% solution of formalde hy de with 0.2% glutaralde hy de, and then tissue sections were supersaturated with increasing concentrations of gelatin and $2.3\mathrm{M}$ sucrose. Then 70nm thick sections were obtained by using cryo-ultramicrotome. The immunohistochemical reactions were performed using colloidal gold labeled antibodies directed against the EBV capsid (viral capsid antigen antibody / abcam) and latent antigen (Latent Membrane Protein 1 / abcam). After the reaction, the sections were contrasted with uranyl acetate. The obtained preparations were subjected to electron microscopic examination.

Results:

Immunoelectronmicroscopy examination showed the presence of the studied EBV virus proteins in thyroid sections of patients diagnosed with AITD.

Conclusion:

The use of the Tokuyasu method allows to show even trace amounts of antigens in tissue sections, usually being outside the detection threshold of other diagnostic and research methods.

The Effect of Human Rhinovirus (HRV-16) on Angiogenic Properties of Human Pulmonary Vascular Endothelium

Author(s): Kinga Klimczak Medical University of Lodz, Poland Presenting author: Kinga Klimczak Tutor(s): Maciej Chałubiński, Aleksandra Likońska Marek L. Kowalski

Introduction

In patients with asthma, increased airway vasculature is observed and it leads to an irreversible bronchial remodeling. Recurrent rhinoviral infections are associated with the development of asthma in children and its heavy exacerbations in adults. However, little is known about the effect of rhinovirus on vascular endothelium and angiogenesis in airways.

Aim of the study

To assess the effect of rhinovirus HRV16 on angiogenic potential of human pulmonary vascular endothelium. Material and methods

Human pulmonary microvascular endothelial cells (HMVEC-L) were cultured on extracellular matrix (ECM) membrane upon previous 3-hour incubation with HRV-16 (MOI 3) to observe the tubule formation under the p hase-contrast microscope. HMVEC-L migration was assessed based on the Cell Index assessment (CI) in the xCELLigence RTCA-DP system on CIM plates.

HMVEC-L were also incubated with HRV16 (MOI 3) for 3 hours in 24-well plates. After virus removal, cells were further cultured for 5, 24, 48, 72 and 96 hours to analyze VEGF, VEGFR2 (KDR), IFN-beta and HRV-16 copy number in Real-Time PCR.

Results

HRV-16 significantly inhibited endothelial tubule formation as compared to mock cells. A significant decrease of CI of cells incubated with HRV16 as compared to mock cells $(0.73 \pm 0.64 \text{ versus } 1.99 \pm 1.04, \text{ p} < 0.05)$ was observed, indicating the decrease of cell migration rate. Interestingly, HRV-16 caused 3-fold increase of VEGF-A in hour 96 (p<0.05) and 6-fold increase of VEGVR2 (KDR) (p<0.05) in hours 48, 72 and 96. 152-fold increase of IFN-beta mRNA expression (p<0.05) as compared to mock cells and 15510 HRV-16 particles/ul detected in endothelial cells 5 hours after the incubation with virus confirmed active rhinoviral infection of endothelium.

HRV-16 may directly inhibit formation of new tubules during the acute infection. However, it may increase the sensitivity to angiogenic factors, thus affecting subsequent formation of new vessels.

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The understanding of mesenchymal stem cells (MSC) - mediated immunosuppression mechanism in the experimental model of asthma

Author(s): Miłosz Nesterowicz, Adrian Janucik Barbara Makowska, Aleksandra Starosz Arkadiusz Żbikowski, Dawid Groth Marlena Tynecka Medical University of Bialystok, Poland Presenting author: Miłosz Nesterowicz Tutor(s): Andrzej Eljaszewicz, Marcin Moniuszko

Asthma is one of the most common chronic inflammatory diseases of the respiratory system, affecting around 300 million humans worldwide and causing 250 thousand deaths every year. Notably, asthma may be usually well controlled by inhaled corticosteroid (ICS). However, some groups of patients do not respond to applied treatment, or develop resistance during chronic treatment. Therefore, there is a substantial need to establish a novel, effective therapies for the patients with uncontrolled asthma. Due to highly immunosuppressive characteristics, the use of mesenchymal stem cell (MSC) based therapies are considered as a promising strategy in proinflammatory disorders, including asthma. However, to date, the mechanisms of MSC induced regulation of lower airway inflammation remain elusive.

Here, we aimed to investigate the effects of MSC administration on the expression of crucial genes that orchestrate innate and adaptive immune responses in eosinophilic and neutrophilic lung inflammation.

Mesenchymal stem cells were isolated from adipose tissue collected after abdominoplasty surgery according to established protocol. MSC phenotype was assessed by flow cytometry, and the functional assay was used to analyze the immunosuppressive properties of isolated cells. Experimental eosinophilic and neutrophilic asthma models were induced by using $10\mu g$, and $100\mu g$ house dust mite (HDM) extract i.n. administration, respectively. MSC were administrated to the lung two days before experiment termination. Lung inflammation was assessed by using H+E staining. The expression level of genes belonging to the epithelial barrier, mucin, metalloproteinase, collagen, and cytokine clusters were assessed by using a quantitative PCR method.

First, we confirmed the MSC phenotype. Additionally, we showed that isolated cells significantly reduced the proliferation of mitogen stimulated T cells confirming their immune regulatory properties. More importantly, we found that MSC administration to the lung significantly reduces inflammation in both used models. Finally, we observed significant downregulation of Gm-csf (Csf2), Il-17A, Il-17F expression, and a trend to decrease Mmp-9 and Mmp-12 expression in eosinophilic, but not neutrophilic asthma model after MSC administration.

In summary, we confirmed the therapeutic potential of adipose-tissue derived MSC in the regulation of eosinophilic and neutrophilic lower airway inflammation. However, still, the mechanisms of MSC mediated regulation of lung inflammation remain elusive, and further studies are needed to understand observed phenomena better.

Methylsulfonylmethane (MSM) reduces LPS-induced migration of prostate cancer cells

Author(s): Damian Ciunowicz, Kowalska Karolina Kozieł Marta Justyna, Habrowska-Górczyńska Dominika Ewa Medical University of Lodz, Poland Presenting author: Ciunowicz Damian Piotr Tutor(s): Agnieszka Piastowska-Ciesielska, Kowalska Karolina

Introduction

Prostate cancer (PCa) is one of the commonest cancers among men worldwide and constitutes a global health problem. Inflammation occurs in response to infection or damage of the tissue. However, persistent inflammation causes formation of reactive oxygen and nitrogen species (ROS and RNS), chemokines, cytokines and growth factors release. Long-term, high levels of these factors might lead to uncontrolled cell proliferation and increased genomic instability. It is suggested that inflammatory signals are also useful for cancer cells in the process of the promotion of migration and metastases. Many natural compounds with potential anti-inflammatory and anti-cancer properties have been suggested so far. Methylsulfonylmethane (MSM) -organic sulfur compound found naturally in vegetables, fruits and cow 's milk is reported to be anti-inflammatory in rhinitis, reduce migration and invasiveness of breast and bladder cancer cells in vitro . Thus, might potentially be useful in the reduction of PCa inflammation.

Aim of the study

The aim of the study was to investigate whether MSM might reduce induced by inflammation migration of PCa cells.

Materials and methods

Androgen-independent DU-145 cells were used as in vitro model of PCa. Inflammation was induced by liposaccharide (LPS). Cells were cultured according to the recommended protocol. One hour before LPS stimulation ($10\mu g/ml$) and $1\mu g/ml$) cells were pre-treated with MSM (200mM and 100mM) and then treated for additional 23 hours. MSM and LPS controls were also used. Non-treated cells were used as control. Cells viability was measured with AlamarBlue assay. Migration of cells was evaluated with wound-healing assay. One-way ANOVA was used to calculate statistical significance (GraphPad Prism software). P value lower than 0.05 was considered as statistically significant.

Results We observed that pretreatment of PCa cells with MSM before exposure to LPS significantly reduced their viability. Moreover, we also observed that pre-treatment with MSM reduced migration of cells induced by LPS.

Conclusions The results showed that MSM might reduce LPS-induced migration of PCa cells. Thus, MSM might possess a beneficial effect in the reduction of inflammation in PCa cells, but this statement needs further studies to be confirmed.

Assessment of in vitro mutual interaction of orbital fibroblasts and immune cells derived from Graves' orbitopathy patients

Author(s): Barbara Makowska, Aleksandra Starosz Mateusz Ostapiuk, Maciej Święcicki Medical University of Białystok, Poland Presenting author: Barbara Makowska Tutor(s): Kamil Grubczak

INTRODUCTION: Graves' orbitopathy (GO) is the most common complication of Graves' disease manifested by orbital inflammation, remodeling, and tissue fibrosis. Orbital fibroblasts, besides regulatory (Tregs) and effector T cells (Th17 predominantly), are considered to be involved in GO periorbital inflammation. Presumably, they are the main targets of inflammatory cytokines released by immune cells in the course of the disease. Upon TGF- beta -induced differentiation, fibroblasts participate in repair and fibrotic processes that might lead to serious eye symptoms.

AIM: Here we investigated interactions between orbital fibroblasts collected from active and inactive Grave's orbitopathy patients and autologous immune cells in the in vitro setting.

MATERIALS AND METHODS: Fibroblasts and peripheral blood mononuclear cells (PBMC) were collected from the same donors with GO in active and inactive stage of the disease, and subsequently co-cultured for 48 hours. Flow cytometric analysis allowed for evaluation of proliferation (CFSE staining) and viability (7-AAD staining) within fibroblasts, and changes in frequencies of Treg and Th17 lymphocytes.

RESULT: Fibroblasts from active orbitopathy have a completely different proliferation activity compared to cells from inactive stage of the disease. Following co-culture with PBMC we observed varied responses of fibroblasts depending on which stage of the orbitopathy was concerned. P resence of PBMC significantly induced proliferation of fibroblasts from active orbitopathy patients. Moreover, viability assessment revealed that active orbitopathy PBMC seems to exert slightly cytotoxic effect on complementary fibroblasts. Furthermore, mutual interactions led to increase in frequency of Treg cells with ${\rm CD4+Foxp3+}$ phenotype, but interestingly, also in ${\rm CD8+Foxp3+}$ cells. In addition, higher percentages of IL-17-producing T cells were observed in ${\rm CD4+}$ and ${\rm CD8+}$ of active orbitopathy patients when co-cultured with autologous fibroblasts.

CONCLUSION: Our study revealed that interaction of orbital fibroblasts with PBMC might play a crucial role in periorbital inflammation and thus contributing to the onset of Grave's orbitopathy. Further studies are required to establish comprehensively which of the demonstrated populations are the initiators and modulators respectively in the orbitopathy-related phenomenons.

Genotype analysis of Bacteroides fragilis - detection of fragilysin gene in loose stool specimens

Author(s): Aleksandra Krygowska, Emilia Płatos Marta Kierzkowska, Kornelia Jasińska Medical University of Warsaw, Poland Presenting author: Aleksandra Krygowska Tutor(s): Marta Kierzkowska, Kornelia Jasińska

Introduction:

Bacteroides fragilis is an obligate anaerobic, Gram-negative, rod-shaped bacteria, causing most of the abdominal infections, although it constitutes only 0.5%-2% in the normal gut microbiota. Some strains are able to produce an enterotoxin - fragilysin, which is an important virulence factor. Enterotoxigenic Bacteroides fragilis (ETBF) can be etiological factor of diarrhea. It is presumed that they contribute to neoplastic transformation of colon cells.

Aim of the study:

The prevalence of the bft genes encoded fragilysin among B. fragilis isolates.

Materials and methods:

A total of 33 B. fragilis were isolated from stool samples from patients of clinical hospital in Warsaw during a period of 08-12.2019. Stool samples were directly plated onto the Bacteroides Bile Esculin Agar (BBE, Becton Dickinson, USA) and incubated for 48 hours in 37 textdegreeC in anaerobic conditions. Colonies were isolated on Schaedler Agar and Columbia Agar (bioMérieux, France), (aerobic control of growth). Isolates were identified with the use of a mass spectrometry technique MALDI-TOF MS of VITEK MS system (bioMèrieux, France). Identified strains were grown in a Brain-Heart Infusion (BHI, bioMérieux, France) in purpose of genomic DNA isolation (Genomic Mini, A&A Biotechnology, Poland). Selected genes (bft, bft-1, bft-2, bft-3) were detected using polymerase chain reaction (PCR). Obtained DNA fragments were separated using electrophoresis in 1% agarose gel to receive following products.

Results:

From 92 diarrheal stool samples 33 (35,9%) strains of B. fragilis were isolated. ETBF strains contain one of three different types of bft gene - bft-1, bft-2, or bft-3. Enterotoxin coding bft gene was detected using specific primers in 5 (15,15%) examined isolates of B. fragilis. In all of bft positive samples was identified (on the next PCR reaction) a product of 190 base pair what corresponds to bft-1 subtype gene.

Conclusions

- 1. Bft gene which determines an enterotoxin production was detected in about 15% isolates of B. fragilis.
- 2. In the analyzed group only the type of bft-1 has been indetified.
- 3. Literature data shows that there is a variety of bft gene types what is connected not only with a type of clinical samples, but also with demographic specification of patients.

Neuroprotective effects of small-molecule PERK inhibitor in Parkinson's disease in vitro model

Author(s): Natalia Siwecka, Adam Wawrzynkiewicz Medical University of Lodz, Poland Presenting author: Natalia Siwecka Tutor(s): Wioletta Rozpędek-Kamińska, Dariusz Pytel J. Alan Diehl, Ireneusz Majsterek

Introduction

Parkinson's disease (PD) is caused by accumulation and self-assembly of *alpha*-synuclein into structures called Lewy bodies with selective loss of midbrain dopamine neurons. The aggregate forms of *alpha*-synuclein evoke Endoplasmic Reticulum (ER) stress conditions, which induce activation of the Unfolded Protein Response (UPR) signaling pathway. The major branch of the UPR, the protein kinase RNA-like endoplasmic reticulum kinase (PERK), may orchestrate apoptosis via upregulation of CCAAT-enhancer-binding protein homologous protein (CHOP) and hence trigger neurodegeneration.

Aim of the study

The aim of the study was to evaluate the effectiveness of the selected small-molecule PERK inhibitor against neurodegeneration in PD.

Material and Methods

The experiments were carried out on a common PD in vitro model, SH-SY5Y human neuroblastoma cell line. The inhibitory activity of the selected compound was assessed after preincubation of cells with PERK inhibitor at concentrations of 3μ M-50 μ M for 1h and then with an ER stress inducer, thapsigargin (500nM), for 2h. Then, Western blotting was performed to measure the level of phosphorylation of eukaryotic initiation factor 2 alpha (eIF2 alpha), which is the main substrate of PERK. In the second experiment, the colorimetric XTT assay was used to evaluate the PERK inhibitor cytotoxicity in wide concentration range of the inhibitor (0,75 μ M-50 μ M and additionally 0,5mM).

Results

The results showed that the phosphorylation of eIF2 alpha was significantly inhibited at 25μ M concentration of the inhibitor (52%). Moreover, the investigated inhibitor did not exert cytotoxic effect in cells at any concentration and incubation time.

Conclusions

To date, there is no effective treatment for PD, since currently used therapeutic options may only alleviate the symptoms and cannot affect the disease progression. Therefore, it becomes essential to develop new drug, with minimized side effects and maximized therapeutic effect. We believe that investigated PERK inhibitor may contribute to development of ground-breaking, targeted therapeutic strategy against PD in the future.

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Does Urocortin-2 induce changes in neurogenesis and in the GABAergic system of the hippocampal formation of rats with Heart Failure with preserved Ejection Fraction?

Author(s): Débora Inês Vilas-Boas, Catarina Castro Rui Adão, Carmen Brás-Silva University of Porto, Portugal Presenting author: Débora Inês Vilas-Boas Tutor(s): Susana Maria Silva, Catarina Cruz

The hippocampal formation (HF) is one of the key brain regions in cognitive, affective and behavioral functions and is a highly plastic structure that is sensitive to external and internal factors. Evidence shows that patients with heart failure are at a greater risk for brain structural and functional changes leading to cognitive impairment. Urocortin-2 (Ucn2) has beneficial hemodynamic cardiac effects and may have a role in the reversion of many of the deleterious processes implicated in the pathophysiology of Heart Failure with preserved Ejection Fraction (HFpEF). Though Ucn2 role in stimulating synaptic formation in HF is also recognized, little is known about its effects on GABA circuits and in the generation of newborn neurons in rats exhibiting HFpEF.

The present study aimed to examine the effect of HFpEF and Ucn2 treatment in the neurogenesis and the expression of the GABAergic interneuronal population of the rat HF.

The study was carried out in 20-week old male rats with overt HFpEF obtained from an animal colony of Zucker Diabetic Fatty Obese rats and in age-matched controls. Half of the animals were treated with Ucn2 for 5 weeks. Animals were cardiovascular evaluated through echocardiography and then sacrificed. Brains were immersed in 4% formaldehyde for 72h, transferred to a 30% sucrose solution and sectioned in the coronal plane. Sections were collected for immunohistochemistry with doublecortin (DCX) and calbindin (CB) antibodies. HF sections were analyzed using a light microscope equipped with a camera lucida at a final magnification of 100 texttimes. A set of 10 sections was analyzed and DCX- perikarya were drawn unilaterally in the subgranular layer. These drawings were used for the measurement of the area using a test system grid composed of a set of regularly spaced points. Cell counts were divided by the values of the corresponding laminar areas to yield the values of the areal densities (number/ μ m2). The same stereological procedure was applied to another set of sections and CB- perikarya were drawn unilaterally in the CA3 subfield.

There were no differences in DCX-ir densities in lean and obese groups when compared to the respective Ucn2 treated groups. Although not significantly, our results showed that DCX-ir neurons decreased in both obese and obese treated with Ucn2 when compared to the respective lean groups. Furthermore, our results also showed that CB-ir neurons decreased significantly in obese and obese treated with Ucn2 groups (p<0.01) when compared to lean and lean treated with Ucn2 groups, respectively. Both lean and obese groups showed no changes in CB-ir neurons when compared to both lean treated and obese treated rats.

The results obtained seem to indicate that the treatment with Ucn2 does not modulate neurogenesis in HF of HFpEF rats. It seems that HFpEF is involved in the negative modulation of CB circuits. Nevertheless, experiments are being carried on to better understand the pathways involved in this process.

Ureteral telocytes and the hydronephrosis development in children

Author(s): Anna Gil, Michał Jurczyk Jagiellonian University Medical College, Poland Presenting author: Anna Gil Tutor(s): Krzysztof Gil, Veronika Aleksandrovych Michał Wolnicki

Introduction: Hydronephrosis is a condition characterized by an excessive amount of urine inside the pelvicalyceal system leading to its dilation and distension. The vast majority of the hydronephrosis among the pediatric population is due to mechanical ureteral obstruction. One of the most frequent urological congenital pathologies is antenatal hydronephrosis, affecting up to 4.5 % of all pregnancies. The pathogenesis of neonatal hydronephrosis can be explained by ureteropelvic junction obstruction, caused by gross changes in the ureteral wall.

Aim of the study: Mesenchymal cells are important for local fibrosis development and hydronephrosis formation as well. In the current study, we focused on the identification of telocytes in the human ureters to hypothesize their role in hydronephrosis pathophysiology.

Material and Methods: The samples were taken from 18 surgically treated patients with hydronephrosis (due to ureteral obstruction and crossing renal vessel). The control group consisted of 10 patients who suffered from a non-obstructive disease of the urinary tract - predominantly renal tumors. Tissue samples from ureter were formalin-fixed, paraffin processed, cut and stained for c-kit, tryptase, CD34, vimentin and PDGFR alpha to identify telocytes. Routine histology was performed to analyze tissue morphology, Masson Trichrome stainings for measurement of collagen deposits by image analysis and toluidine blue method for mast cell visualization were applied.

Results: Telocytes were detected in the ureteral wall in both groups. In patients with hydronephrosis, we revealed the decreased density of telocytes, the prevalence of collagen, a significant rise in mast cell count and the ureteral wall thickening compared to the controls.

Conclusion: A declined density of telocytes accompanied hydronephrosis development. Increased number of mast cells in the ureteral wall reflects a local inflammation, while detailed observation of collagen/muscle deposits and density of telocytes revealed differences depended on the etiologic factor (obstruction or crossing vessel) in patients with hydronephrosis.

Chronic alcohol exposure induced in the hippocampal formation Neuroinflammation, neurogenesis and behavioural changes that were neither reversed by long-term withdrawal nor by flavonoids

> Author(s): Francisco Teixeira, Débora Inês Costa Catarina Castro, Armando Cardoso University of Porto, Portugal Presenting author: Francisco Teixeira Tutor(s): Susana Maria Silva, Catarina Cruz

Introduction: It is largely known that chronic alcohol intake in humans leads to significant brain structural changes, mainly in the hippocampal formation. Flavonoids are polyphenolic compounds, present in a variety of aliment of plant origin, pointed as promising candidates in the prevention of neuroinflammation.

Aim: The present study aims to examine the effects of chronic ethanol exposure and long-term withdrawal on cognitive functions, anxiety, fear response, neuroinflammation and neurogenesis in the hippocampal formation, as well as to assess the potential of flavonoids in ameliorating those effects.

Methods: Eight-week-old male Wistar rats were randomly assigned to four groups: (1) Ethanol rats ingested an aqueous ethanol solution (20%) for 6 months. (2) Withdrawn rats were treated as ethanol rats for 6 months and, then switched to tap water for a further 2 months. (3) Withdrawn + flavonoids rats were treated as withdrawn rats but, additionally, received food pellets with embedded blackberry extract. The ethanol introduction and removal was performed gradually over 2 weeks. (4) Control rats had free access to water and pellet food along with the experiment. Over the last month, rats were tested for anxiety in the openfield and elevated plus-maze and for learning and memory in the Morris water maze. Rats were sacrificed and hippocampi were removed for immunohistochemical and molecular biology techniques. CD11b and doublecortin (DCX) antibodies were used as markers of neuroinflammation and neurogenesis, respectively. The expression levels of some cytokines were measured by qRT-PCR.

Results:

Behavioural studies showed no significant cognitive deficits in rats exposed to ethanol, whereas in withdrawn rats there was an impairment of their overall performance. Also, cognitive impairment after withdrawal from ethanol was not reversed by flavonoids. Moreover, the decreased anxiety induced by alcohol and withdrawal was not reversed by flavonoids during withdrawal. Our results show that alcohol intake was associated with an increase in the density of activated microglia though microglia did not exhibit a full activation phenotype. The partial activation of microglia was not reversed by long-term withdrawal and by flavonoids. TNF alpha and COX-2 genes did not change between groups. In ethanol and withdrawn + flavonoids rats, IL-15 levels increased significantly relative to those of control and withdrawn rats. Our results also show that the density of DCX-ir neurons in the subgranular layer of the HF was significantly reduced due to chronic ethanol (p<0.001) and withdrawal (p<0.05) treatment. No differences were found between control and withdrawal+flavonoids rats, between ethanol and withdrawn rats and, also, between both withdrawn groups.

Conclusion: Our results indicate that behavioural and morphological changes induced by ethanol were not reversed after withdrawal and only flavonoids modulated neuroinflammation through IL-15 expression.

Cardiac fibroblast proliferation is regulated by irisin

Author(s): Marta Drobnik Uniwersytet Medyczny w Łodzi, Poland Presenting author: Marta Drobnik Tutor(s): Paulina Radwańska

Introduction. Fibrosis of the heart in diabetics supports development of heart failure. Prevention or treatment of heart fibrosis is not known. Accumulation of collagen within the heart is dependent on synthesis and breakdown of this protein by cardiac fibroblasts. Moreover, increased proliferation of heart fibroblasts support fibrosis.

Irisin, described in 2012, is the myokine composed by 112 aminoacids, derived from precursor of fibronectin III and secreted by skeletal muscle, heart and adipose cells. Irisin increase glucose uptake by muscle cells and increase energy expenditure, regulates metabolism of glucose and lipids within liver. Moreover, the myokine upregulates expression of glucose transporters genes in adipose and muscle cells. Glucose was proved to promote cell proliferation. Augmentation of irisin concentration was found in patients with obesity and diabetes mellitus type 2.

Aim. The study is aimed at verification of hypothesis suggesting that irisin may be involved in regulation of cardiac fibroblast proliferation. Explanation, whether concentration of glucose in medium may influence on the final effect of irisin on fibroblasts proliferation, is planned. Expression of glucose transporters on the surface of cardiac fibroblasts was investigated.

Methods. Experiments were performed on human cardiac fibroblasts (ABM, Canada), cultured in media with different concentration of glucose: 1 mmol/l (hypoglycemia), 5 mmol/l (normoglycemia), and 25 mmol/l (hyperglycemia). Cells were settled in initial density 3x103/well. Following concentrations of irisin were applied 10-7 M, 10-8 M and 10-9 M. Fibroblast proliferation was measured by BrdU. Expression of glucose transporters GLUT1, GLUT3 and GLUT4 were confirmed by flow cytometry. Experiments were performed with and without insulin in medium.

Results. Changes of glucose concentration did not influenced on fibroblast proliferation. Irisin increased proliferation of cardiac fibroblasts in normoglycemic and hyperglycemic conditions. The most effective concentrations are 10-8 M and 10-9 M in normoglycemia and 10-9 M in hyperglycemia. In hypoglycemia the irisin is ineffective. Insulin is not involved in regulation of irisin effect. Expression of GLUT1, GLUT3 and GLUT4 was confirmed on the surface of fibroblasts. Conclusion. Irisin is involved in regulation of cardiac fibroblasts proliferation by accelerating this process. The effect of this myokine is dependent on glucose concentration. Glucose transporters expression (GLUT1, GLUT3 and GLUT4), a potential target for irisin was confirmed on fibroblasts. Further experiments describing effect of irisin on glucose transporter expression are planned.

Analysis of transmission rhinovirus HRV-16 infection from airway epithelium to vascular pulmonary endothelium in an in vitro model

Author(s): Robert Szewczyk
Medical University of Lodz, Poland
University of Lodz, Poland
Presenting author: Robert Szewczyk
Tutor(s): Maciej Chałubiński, Marek L. Kowalski
Magdalena Mikołajczyk-Chmiela

Introduction: Rhinoviruses are the most popular triggers causing heavy exacerbations of asthma. In the natural conditions, the airway epithelium is the target for the rhinovirus. Our recent in vitro studies have shown that rhinovirus HRV-16 may infect endothelial cells of the lung vessels. However, it is not known, wheather HRV-16 may pass from infected epithelium to the vascular endothelium.

Aim of the study: To assess whether HRV-16 may pass from HRV-16-infected airway epithelium to the pulmonary vascular endothelium in the in vitro model.

Material and methods: Normal human bronchial epithelial cells (NHBEC) were grown in serum-free basal epithelial gowth medium (BEGM) on 24-well plates in density of 2x105/well. After 24 hours, cells were incubated with HRV-16 (MOI 0.1, 1.0 and 3.0) for 3h, washed and cultured for subsequent 5, 24 and 48h. Next, human pulmonary microvascular endothelial cells (HMVEC-L) were cultured with supernatants from cultures of NHBECs infected with HRV-16 (MOI 3.0, 5- and 24-hour cultures). In both NHBEC and HMVEC-L, HRV-16 copy number and IFN-beta and RANTES mRNA expression were assessed to confirm rhinoviral infection and the generation of an inflammatory response.

Results: In HNBEC incubated with HRV-16, virus copies were detected (MOI 0.1, 1.0 and 3.0 in hour 48: 40 ± 17 , 209 ± 22 and 662 ± 116 copies/ul, respectively; p < 0.05) Furthermore, 10-, 85- and 25-fold enhancement of RANTES and 3-, 15- and 5-fold increase of IFN-beta mRNA expression in hour 5 (p < 0.05) and mRNA expression in hour 48 were observed. In HMVEC-L cultured with supernatants derived from HRV-16-infected epithelium (MOI 3.0), 10 ± 2 and 450 ± 54 copies/ul in 5 and 24-hour was detected (p < 0.05), which was accompanied by 10- and 4500-fold increase of RANTES and 5- and 38-fold increase of INF-beta and mRNA expression (p < 0.05).

Conclusion: HRV-16 may pass from bronchial epithelium to vascular pulmonary endothelium. This model of infection transmition suggests that airway epithelium infected with rhinovirus may potentially infect vascular pulmonary endothelium during rhinoviral asthma exacerbations, thus directly involving vascular endothelium in the inflammatory response. STUDENT RESEARCH GRANT of UŁ

Alternariol (AOH) induces oxidative stress in breast cancer cells

Author(s): Marta Kozieł, Karolina Kowalska Dominika Ewa Habrowska-Górczyńska, Kinga Anna Urbanek Kamila Domińska, Agnieszka Wanda Piastowska-Ciesielska Medical University of Lodz, Poland Presenting author: Marta Justyna Kozieł Tutor(s): Agnieszka Wanda Piastowska-Ciesielska

Introduction

Breast cancer is the most common cancer in women worldwide and constitutes a global health problem. The etiology of this disease is complex and involves genetic mutations, environmental factors, hormonal disruptions and family history. Alternariol (AOH) is a secondary metabolite of fungi, produced by Alternaria species. AOH contaminates cereals, fresh and processed fruits and vegetables. AOH was previously reported as one of estrogenic mycotoxins which acts as immunomodulatory and genotoxic agent in cells.

Aim of the study

The aim of the study was to evaluate the effect of AOH on two mammary gland cancer cells lines (MDA-MB-231 and MCF7) with different hormonal status.

Material and methods MDA-MB-231 and MCF7 cells treated with AOH for 24 and 48 hours. The viability of cells was evaluated by AlamarBlue assay. Reactive Oxygen Species (ROS) concentration was estimated by Oxidative Stress Kit (Merck Millipore). DNA damage was determined by MultiColor DNA damage Kit (Merck Millipore) and cell cycle distribution was evaluated with Muse Cell Cycle Kit (Merck Millipore). Oneway ANOVA was used to calculate statistical significance. p < 0.05 was considered as statistically significant (GraphPad Prism software).

Results

Our results showed that AOH significantly reduces viability of MDA-MB-231 and MCF7 cells. Moreover, AOH enhances the number of ROS positive cells, induces DNA damage and leads to $\rm G2/M$ cell cycle arrest in both cell lines.

Conclusion

The results showed that AOH induces oxidative stress, DNA damage and modulation of cell cycle in MDA-MB-231 and MCF7 breast cancer cells.

The effect of rhinovirus HRV16 on barrier properties and regeneration of lung vascular endothelium in the immunopathology of asthma

Author(s): Mateusz Gawrysiak Medical University of Łódź, Poland Presenting author: Mateusz Gawrysiak Tutor(s): Maciej Chałubiński, Marek L. Kowalski

Introduction. Human rhinovirus (HRV) is the most common cause of heavy exacerbations of asthma. The effect of HRV on pulmonary vascular endothelial barrier and regeneration has not been established. The aim of the study was to assess the effect of HRV16 on barrier functions and ability to regeneration of lung vascular endothelium.

Materials and methods. Human primary lung microvascular endothelial cells (HMVEC-L) were incubated with HRV16 (MOI 0.1; 1, 3) for 3h, washed and further cultured for 72h. HRV16 copy number and mRNA expression of IFN-beta, RANTES, IL-33, periostin and TGF-beta were assessed in the real-time PCR. IFN-beta and RANTES levels in supernatants were assessed by ELISA. HMVEC-L integrity, migratory functions and permeability were analyzed in the RTCA-DP system and "paracellular flux" assay. VE-cadherin expression was analyzed in the confocal microscope. HMVEC-L proliferation and regeneration were assessed in the thymidine incorporation assay and "wound healing" test. Apoptosis was assessed in flow cytometry.

Results. Right upon an incubation of HMVEC-L with HRV16 (MOI 0.1, 1 and 3), virus RNA was detected in cells lysates (15.000 copies/ μ l). HRV16 caused 1700-, 9900- and 11000-fold increase of RANTES and 20-, 30- and 40-fold increase of INF-beta mRNA expression, respectively, as compared to uninfected control (p<0.05), which were accompanied by protein release to supernatants. (p<0.05) HRV16 (MOI 3) decreased HMVEC-L integrity (nCI in hour 6: 0.69 \pm 0.14 versus 1.07 \pm 0.07; p<0.05) and increased its permeability by 29 \pm 15.4% as compared to the control. (p<0.05) HRV16 caused a decrease of VE-cadherin expression assessed in the confocal microscope (fluorescence intensity at 24h: 20.9 \pm 5.5 [e.u.] versus mock 39.2 \pm 9.4 [e.u.]). HRV16 increased the percentage of apoptotic cells (Ax+PI+) upon the exposure (MOI 3.0 in hour 72: 30.4 \pm 9.9% versus mock: 16 \pm 6.4%, p<0.05, respectively) and decreased the percentage of living cells (Ax-PI-) (MOI 3.0 in hour 72: 61.3 \pm 11% versus mock 75.1 \pm 6.6%; p<0.05). HRV16 (MOI 3) slowed down the migration of HMVEC-L (CI at 12h: 0.29 \pm 0.085 versus 1.09 \pm 0.15; p<0.05) and the regeneration of wounded HMVEC-L monolayer (wound healing rate in hour 6: 88.74 \pm 7.64 versus mock 99.29 \pm 1.90%; p<0.05). HRV16 inhibited HMVEC-L proliferation by 50% (p<0.05) and caused 10-fold down-regulation of IL-33 and periostin and also 2-fold down-regulation of TGF-beta mRNA expression at MOI 3.0 (p<0.05).

Conclusions. This data indicate that rhinovirus may disrupt endothelial barrier and impair its capacity to repair as well as it may induce inflammatory response, thus potentially involving lung vascular endothelium in the immunopathology of rhinoviral exacerbations of asthma. National Science Center 2017/25/B/NZ5/01575.

Newly synthesized anticancer agent and polyunsaturated fatty acid DHA synergistically decrease viability of breast cancer cell line MCF-7

Author(s): Łukasz Kołodziej, Sylwia Ziółkowska Piotr Czarny, Adam Pieczonka Medical University of Lodz, Poland Presenting author: Łukasz Kołodziej Tutor(s): Piotr Czarny

Newly synthesized anticancer agent and polyunsaturated fatty acid DHA synergistically decrease viability of breast cancer cell line MCF-7

Introduction: Breast cancer is still the most common malignant tumour diagnosed among women. Depending on the stage of tumour's growth, various methods of treatment are applied. Except for radiotherapy and surgery, the systemic therapy is also used. ARA12 is a newly synthesized drug which could be potentially used in chemotherapy. DHA (docosahexaenoic acid) is an omega-3 fatty acid used in cancer prophylaxis. It can also be used as supplement in systemic therapy.

Aim of the study:

The aim of the study was to measure the cytotoxic effect of ARA12, DHA and a mixture of these compounds on the MCF-7 breast cancer cell line.

Material and methods: The cells were incubated for 24 hours with the tested compounds and the MTT (Methyl Thiazole Tetrazolium) viability test was performed. Analysis of induction of apoptosis and analysis of cell cycle were examined on the flow cytometer. Statistical analysis was performed by two-way analysis of variance (ANOVA), Brown-Forsythe equality of group variances test, Fisher LSD (Least Significant Difference) post-hoc test and Tukey post-hoc test.

Results: ARA12 has been proven to demonstrate significant cytotoxic properties [EC $50 = 160 \mu g/ml$]. Moreover, a small dose of DHA [50 $\mu g/ml$] added to EC 50 of ARA12 caused death of statistically higher number of cells than chemicals used individually (about 28% of cells were left alive). It was observed that neither of compounds induced necrosis, and most of the dead cells were in early stages of apoptosis. During flow cytometry, majority of cells were counted in the G0/G1 phase. Mixture of ARA12 and DHA in concentration of $50 \mu g/ml$ for each chemical reached approximate result in inhibiting the cell cycle as $160 \mu g/ml$ of ARA12.

Conclusions: Performed experiments suggest that supplementation ARA12 with DHA may allow to use lower doses of ARA12 to achieve cytotoxic effect, because the compounds acted synergistically in both lowering the cells viability and inhibiting the cell cycle. Importantly, ARA12 and DHA used as a mixture of sublethal doses show cytotoxic properties. Both tested compounds greatly induced apoptosis and neither ARA12 nor DHA tended to induce necrosis To fully learn the ARA12 effect on human organism and its usefulness in anticancer therapy, further research on healthy cells is needed.

Occurrence of anaerobic non-spore-forming bacteria in diarrheal stool samples.

Author(s): Emilia Płatos, Aleksandra Krygowska Medical University of Warsaw, Poland Presenting author: Emilia Płatos Tutor(s): Kornelia Jasińska, Marta Kierzkowska

INTRODUCTION: Bacteroides and Parabacteroides genus are a part of natural microbiome of gastrointestinal tract. Colon population of anaerobic bacteria amounts to 1012-1014 per gram of chyme (low oxygen concentration). Anaerobes occur with aerobes in ratio 1000:1. Specieswith the highest prevalence are: B. vulgatus, B. thetaiotaomicron, B. uniformis and P. distasonis. However B. fragilis causes majority of inflammation in abdominal cavity. It forms 0,5% to 2% of intestinal microflora.

AIM OF THE STUDY: Evaluation of incidence of various anaerobic non-spore-forming species in stool samples from patients with diarrhea.

MATERIAL AND METHODS:

In our study 207 stool samples from patients suspected of occurrence of antibiotic-associated diarrhea and hospitalized in Clinical Hospital in Warsawwere examined between 08.2019-01.2020. Stool samples were placed on Bacteroides Bile Esculin Agar (BBE, Becton Dickinson, USA) and were incubated in 37 textdegreeC in anaerobicconditions for 48 hours. Isolation of colonies was performed on Schaedler Agar and Columbia Agar (oxygen control), (bioMérieux, France). For identification of isolates we usedmass spectrometry MALDI-TOF MS of VITEK MS (bioMérieux, France).

RESULTS:

180 Bacteroides and Parabacteroides isolates were cultured from stool samples and includes: B. vulgatus - 39 (21,7%), B. fragilis - 36 (20%), B. thetaiotaomicron - 26 (14,4%), B. ovatus/xylanisolvens - 24 (13,3%), P. distasonis - 19 (10,6%), B. vulgatus/dorei - 10 (5,5%), B. caccae - 6 (3,3%), B. stercoris - 5 (2,8%), B. cellulosilyticus - 4 (2,2%), B. dorei- 3 (1,7%), B. ovatus/thetaiotaomicron - 3 (1,7%), Alistipes finegoldii - 2 (1,1%) and one isolate from: P.merdae, B. caccae/B. thetaiotaomicron, B. eggerthii. In the 55 fecal samples - one anaerobic bacteria species was found, in the 34 samples - two, in the 11 samples - three and in the 6 samples - four anaerobic species were found.

CONCLUSIONS:

It was found, that species with the highest prevalence in diarrheal fecesare: B. vulgatus, B. fragilis, B. thetaiotaomicron, B. ovatus/xylanisolvens and P. distasonis. However isolation from stool samples relates to as many as 20% of them, what is an exception to non-diarrheal samples (data from literature).

The effect of curcumin on the secretion of matrix metalloproteinases (MMPs) in cell culture models of astrocytoma, neuroblastoma and Alzheimer's disease

Author(s): Angelika Mastalerczyk, Sylwia Nemeczek Medical Univeristy of Lublin, Poland Presenting author: Angelika Mastalerczyk Tutor(s): Anna Boguszewska-Czubara

Introduction: Curcumin has been used in natural medicine, as well as in the cuisine of the Far East for many decades. Nowadays its pro-health properties have attracted the attention of scientists. Clinical trials are being made aimed at the introduction of turmeric for treatment, in particular cancer neurodegenerative diseases and some type of cancer.

Extracellular matrix metalloproteases (MMPs) are enzymes that degrade the basement membranes and extracellular matrix. Their increased concentration may also suggest the occurrence of some pathological process in the organism.

Aim of the study: The aim of this study was to examine the secretion of matrix metalloproteinase 2 and 9 and check the influence of active ingredients of the plant Curcuma longa and turmeric extract on MMP-2 and MMP-9 activity in cell culture models.

Material and Methods: The material was curcumin (pure curcumin and the one extracted from Curcuma longa). The study was conducted on the cell lines of neuroblastoma (SH-SY5Y) and astrocytoma (1321N1) and The Alzheimer 's disease cellular model (SH-SY5Y + Ocadaic Acid). The activity of MMPs was determined by gelatin zymography and cytotoxicity was tested by the MTT test.

Results: The study showed that curcumin caused a decreased secretion of matrix metalloproteinases 2 & 9 in cell lines: SH-SY5Y and 1321N1 and counteracted the toxic action of okadaic acid. The active compound of Curcuma longa increased cell viability in SHSY5Y

and 1321N1 cell culture models.

Conclusions: Curcumin, the active compound of Curcuma longa increased cell viability in astrocytoma & neuroblastoma cell cultures and cellular model of Alzheimer 's Disease. The active substance of turmeric extract decreased secretion of examined metalloproteases. MMP-9 counteracted the toxic effect of Ocadaic Acid in AD cellular model, therefore it may be involved in the etiology of Alzheimer 's Disease. To prove this hypothesis further studies in this direction should be performed.

Keywords: curcumin, matrix metalloproteinases, alzheimer 's disease, astrocytoma, gelatin zymography

Transcriptomic analysis of mesenchymal stem cell mediated suppression of lower airway inflammation

Author(s): Adrian Janucik, Miłosz Nesterowicz Barbara Makowska, Aleksandra Starosz Arkadiusz Żbikowski, Marlena Tynecka Medical University of Bialystok, Poland Presenting author: Adrian Janucik Tutor(s): Andrzej Eljaszewicz, Marcin Moniuszko

Mesenchymal stem cells (MSCs) are defined as large, spindle-shaped, immunosuppressive, and multipotent stromal cells able. Recognizing their immunosuppressive activities, induced by direct (cell-to-cell) and indirect (anti-inflammatory mediators release) mechanisms, MSC are considered as a promising cell source for cell-based therapies to treat inflammatory disorders, including uncontrolled asthma. Although the effectiveness of MSC administration to reduce lung inflammation in experimental asthma models has been proved, to date, the mechanisms of MSC mediated regulation of lower airway inflammation remain elusive. Therefore, there is a substantial need to understand pathways in witch MSC may reduce inflammatory responses within the lungs.

In this study, we aimed to analyze complex networks of signaling pathways and bio functions associated with MSC induced regulation of eosinophilic and neutrophilic experimental asthma model.

Adipose tissue-derived MSC were isolated from human fat obtained from bariatric patients. The phenotype and immunomodulatory properties of isolated cells have been confirmed by in vitro experiments. House dust mite (HDM) induced eosinophilic and neutrophilic asthma model was used in this study. MSC were administrated intranasally two days before experiment termination. RNA isolated from the whole lung (Qiagen) was used for RAN-seq analysis by using the Illumina platform. Biostatistics and bioinformatics analysis were performed by using R software (R Core Team), Galaxy Project (Galaxy Community), and Ingenuity Pathway Analysis (IPA QIAGEN).

Here we found that MSC induced suppression of the eosinophilic and neutrophilic lung inflammation possess distinct transcriptomic signatures. Interestingly, according to the analyzed profiles, only 18 down- and 215 up-regulated genes were common for both models. More importantly, bio function and pathway analysis, based on differentially regulated genes, revealed a distinct pattern of changes in MSC suppressed eosinophilic and neutrophilic allergic lung inflammation.

Taking together, MSC may reduce allergic airway inflammation development in HDM induced model. Moreover, MSC mediated immunosuppressive effects differ significantly depending on the phenotype of lower airway inflammation. However, our understanding of the processes underlying MSC induced regulation of lower airway inflammation requires further research and validation.

Medical 3-dimensional printing pilot elective course for undergraduate medical students - Teaching its application and workflow

Author(s): Agastya Patel, Jaroslaw Meyer Szary Marlon Souza Luis, Robert Sabiniewicz Joanna Kwiatkowska Medical University of Gdansk, Poland Presenting author: Agastya Patel Tutor(s): Jaroslaw Meyer Szary

Introduction: 3-dimensional printing (3Dp) is an emerging concept in medicine with several pertinent applications. A pilot hands-on elective course focused on teaching how to make medical 3D models and their applications was developed to expose medical students to the potential of 3Dp, and raise awareness and interest in it.

Aim of Study: The aim of the study was to assess the impact of a dedicated, hands-on 3Dp course in educating medical students about its application and workflow. Further, to determine if experiencing 3Dp workflow would raise interest and enhance their medical education.

Methods and Material: 14 medical students participated in the elective course. Ten students were eligible and consented to take part in the study. The course comprised of 15 teaching hours - 9 seminar and 6 exercise hours. In the seminars, the following topics were discussed - medical applications of 3Dp; available software, printing technologies and materials; and overview of the workflow. During the exercises, students worked in pairs to gain hands-on experience and create their own 3Dp models. Materialise Mimics Innovation Suite 22.0 was used for digital processing of computed tomography images. A Likert scale-based (22 items) questionnaire was developed. The participants filled the questionnaire in the pre- and post-course period. The post-questionnaire included an additional 9 items. The responses were analyzed using Wilcoxon test.

Results: 10 undergraduate medical students (6 males) in the 4 th -5 th year of their studies participated in the study. 70% of students stated that they were "somewhat familiar" with 3Dp before starting the course. In comparison, at completion, 40% believed that they "have experience" and 60% were "somewhat familiar" with the modality. On evaluation of pre- and post-responses, students felt significantly more positively about 3Dp models being accurate representation of a specific patient's anatomy (p=0.02), helpful in understanding pathologies and planning medical interventions (p=0.01) and beneficial in educating patients (p=0.03), at the end of the course. The students unanimously agreed that 3Dp played a role in medical education, making customized prosthesis, and practicing surgical procedures both before and after the course. All students agreed that learning about medical uses and workflow of 3Dp has positively influenced their experience of learning medicine. Further, every student responded that they would like to participate in similar 3Dp courses in the future and recommend such courses to fellow students.

Conclusion: Our study demonstrates that hands-on courses are effective in teaching medical students about the applications and workflow of 3Dp. Experiencing this innovative modality was seen to positively impact their medical education while also providing them with an additional skill. The interest identified is highly encouraging as it may attract students to partake and contribute to furthering medical 3Dp.

Cardiology



Coordinators: Zuzanna Żychowicz, Maria Sawościan,

Jury:

prof. dr hab. n. med. Jerzy Krzysztof Wranicz , prof. dr hab. n. med. Rafał Dąbrowski ,

Worse long-term prognosis in myocardial infarction occurring on weekends and public holidays. First Polish report

Author(s): Adam Stępień, Karol Nowak Jagiellonian University Medical College, Poland Presenting author: Adam Stępień Tutor(s): Konrad Stępień, Jarosław Zalewski Jadwiga Nessler

Introduction: 'Weekend effect' and its impact on outcomes of myocardial infarction (MI) treatment has been intensively studied over the last years. However, according to our knowledge the issue of this phenomenon has not been analyzed in Polish population before. Therefore, there is no available data describing relationship between the current organization of 24-hour/7-day cardiac catheterization laboratories in Poland and prognosis of MI patients admitted on non-working days.

Aim: To evaluate the impact of MI occurrence on weekends and public holidays on the long-term prognosis in group of Polish patients and to characterize the potential causes of stated differences.

Materials and methods: The 865 consecutive patients hospitalized in years 2012-2017 in our hospital with the diagnosis of MI were enrolled. 223 (25.8 %) of them were admitted during weekend days (200, 23.1%) or public holidays (23, 2.7%). In turn, 642 (74.2%) patients were admitted on working days. Baseline clinical characteristics, angiographic assessment including determination of infarct-related artery (IRA) and applied treatment method were documented. The long-term follow-up of all-cause mortality was obtained from the National Death Registry of Poland.

Results: The patients in both groups represented typical population with coronary artery disease. STEMI was significantly more frequent in non-working days (41.3 vs 30.8%, P=0.005). Moreover, higher values of creatine kinase (median: 202 vs 169 IU/l, P=0.023) and its MB fraction (median: 24 vs 21 IU/l, P=0.003) were observed in weekends and public holidays. Comparing non-working to working days, the significant differences in IRA distribution were observed in the left anterior descending artery or diagonal branch (38.1% vs 30.2%, P=0.030), left circumflex artery or marginal branch (15.7% vs 22.4%, P=0.032) or IRA remained undetermined (4.5% vs 10.6%, P=0.006). Further analysis revealed that MI with nonobstructive coronary arteries (MINOCA), occurred significantly more often in working days (9.0 vs 4.0%, P=0.016). The significantly higher all-cause mortality was documented in weekends and public holidays (36.3 vs 28.4%, P=0.026). In detailed analysis of long-term survival this observation was confirmed and visualized with Kaplan-Maier curve among whole MI group (P=0.037) with only clearly marked trends towards a higher long-term mortality in non-working days in NSTEMI (P=0.19) and STEMI (P=0.07).

Conclusion: Our study is the first report regarding the 'weekend effect' in Polish MI patients. As we have determined, the admission of patient with MI in weekends and public holidays worsens the long-term prognosis in the era of common and continuous availability of urgent revascularization. The described higher incidence of MINOCA in working days incline to further research on the chronobiology of this complex disease.

Predictors of recurrent cardiovascular events after non-ST segment Elevation Myocardial Infarction.

Author(s): Eglė Lukošiūtė Vilnius University, Lithuania Presenting author: Eglė Lukošiūtė Tutor(s): Vilma Dzenkeviciute

Introduction

Despite the great progress in the diagnosis and management of acute coronary syndromes (ACS), the recognition of subsequent cardiovascular event still presents as a challenge to physicians. Recent studies have shown a relationship between some blood count-derived inflammatory and biochemical markers and a cardiovascular event.

Aim of the study

To investigate the risk of recurrent cardiovascular event (RCE) and its haematological predictors in patients with non-ST segment Elevation Myocardial Infarction (NSTEMI).

Materials and methods

The study was based on retrospective analysis of 1189 medical histories of NSTEMI-diagnosed patients hospitalized between 2005 and 2010. Routinely performed test values, taken at first hospitalization day, were compared. We calculated blood-count ratios including platelet-lymphocyte (PLR), lymphocyte-monocyte (LMR), platelet-monocyte (PMR), neutrophil-lymphocyte (NLR) and neutrophil-monocyte (NMR); investigated associations between RCE and 26 haematological parameters (including lipid panel) and then assessed whether these values were linked to an increased risk of RCE. Cut-off values, sensitivity, and specificity were identified using Area Under Curve (AUC) and Receiver Operating Characteristic (ROC) curves. The occurrence of RCE were divided into three groups: up to 30 days, 31 to 365 days and over 1 year.

Results

A total of 830 patients had one cardiovascular event, while 359 had RCE. Altogether there were 70,5% of men and 29,5% of women. Pearson's chi-square test showed that gender distribution between groups was not statistically significant. Between patients with one and recurrent cardiovascular events there were statistically significant differences only in triglycerides (higher in RCE group) [p=0.008]. However, the mean of triglycerides in both groups were in normal range $(1,584\pm0,930~\text{mmol/l})$ and $1,764\pm1,338~\text{mmol/l})$ and in the analysis of the ROC curve the AUC was 0.525~with sensitivity of only 39% and specificity of 67%. 181 patients had a RCE up to 30 days, 43 patients between 31 and 365 days and 135 more than 1 year after the first cardiovascular event. Between these time-framed RCE groups there were statistically significant differences in age [p=0.039], troponin level [p=0.019] and NLR [p=0,05]. Troponin level mean was the highest in the group that had RCE up to 30 days $(17,676\pm40,712~\mu\text{g/l})$. Other blood-count indices had no significant difference.

Conclusions

There is a high demand for a reliable, non-invasive, and haematological prognostic marker in ACS, which would identify patients of high cardiovascular risk in secondary prevention. This study showed that higher triglycerides values on admission might be associated with worse outcomes in patients with NSTEMI and that higher troponin levels after NSTEMI might predict an earlier RCE. However, we were unable to confirm a strong association between first and recurrent cardiovascular events.

Serum hypoxia-inducible factor-1alpha protein levels as a potential diagnostic marker of cardiovascular disease in patients with obstructive sleep apnea

Author(s): Filip Karuga, Szymon Turkiewicz Oliwia Weiner Medical University of Lodz, Poland Presenting author: Filip Karuga Tutor(s): Agata Gabryelska, Marcin Sochal Piotr Białasiewicz

Introduction

The obstructive sleep apnea (OSA) is a chronic condition characterized by recurrent pauses in breathing during sleep, which cause intermittent hypoxemia. The hypoxia-inducible factors (HIF) is key regulator of cellular oxygen metabolism and is comprised of both oxygen-regulated alpha-subunit and constitutively expressed beta-subunit. HIF-1 alpha protein is highly unstable under normoxia condition. Hypoxia leads to stabilization of HIF-1 alpha and its expression. This protein is thought to be responsible for activation of a vast number of genes and involvement in pathogenesis of many diseases. Moderate and severe OSA is associated with a significant increase in the cardiovascular morbidity.

Aim of the study

The aim of the study was to determine if serum HIF - 1 alpha protein levels have diagnostic value of cardiovascular diseases in patients with OSA.

Materials and Methods

The study group included 60 patients, who underwent polysomnography (PSG) examination and were diagnosed with OSA. Cardiovascular disease (CVD) encompasses heart failure, myocardial infarction, cardiomyopathy, and cardiac arrythmia. CVD diagnosis was based on patient's medical documentation. Patients with chronic respiratory disorders, chronic inflammatory diseases, infection within 1 month of blood collection and cancer were excluded from the study. Peripheral blood samples were collected in the evening before and in the morning after PSG. The HIF - 1 alpha concentration was assessed using ELISA. Statistical analysis was performed with Statistica 13.1.

Results

It was found that the serum HIF - 1 alpha

protein level was increased in individuals with CVD (n = 18), both in the evening (median, 1071.2 vs 1504.9 pg/ml; p = 0.049) and in the morning (median, 1193

vs 1694.4 pg/ml; p = 0.045), as compared with patients without history of CVD (n = 42). In CVD group, evening and morning serum HIF - 1 alpha protein levels correlated with the apnea-hypopnea index (AHI; r = 0.37, P = 0.001 and r = 0.362, P=0.001, respectively) and body mass index (BMI; r = 0.259, P = 0.018 and r = 0.276, P = 0.011, respectively). In the applied ANCOVA model, only the presence of CVD differentiated serum HIF - 1 alpha

protein levels in the evening and in the morning: F = 4.737, P = 0.032 and F = 5.477, P = 0.022, respectively. Covariates did not affect the observed differences in serum HIF - 1 alpha

protein levels in the evening and in the morning, which remained significant (P = 0.034 and P = 0.035, respectively).

Conclusions Serum HIF - 1 alpha protein levels have significant diagnostic value in OSA patients with comorbid CVD independently from AHI and BMI.

Analysis of post-hospitalization management of myocardial infarction

Author(s): Giedrė Smaliukaitė, Viktorija Selskaitė Vilnius university, Lithuania Presenting author: Giedrė Smaliukaitė Tutor(s): Jolita Badariene

Introduction Mortality from acute myocardial infarction remains high and the highest is especially during the first 30 days. Prognosis after myocardial infarction and recurrence rates also depend on treatment after myocardial infarction. Individual treatment with medication is very important in this case.

Aim of the study

The aim of research is to evaluate the therapy of medications after hospitalization for myocardial infarction. Material and methods

The study group included 989 patients treated for ST-elevation acute myocardial infarction (STEMI) at Vilnius University Hospital Santara Clinic between 2014 and 2015. The study retrospectively investigated patients' recommendations at discharge them from the hospital. It was investigated an angiotensin-converting-enzyme inhibitor (ACEi), beta-blockers, anti-aggregating agents, calcium antagonists, diuretics, central-acting agents, lipid-lowering drugs, fibrates and anticoagulants prevalence. The study data were analyzed using the SPSS statistical software and Microsoft Excel. The research results were considered statistically significant when p was < 0.05.

Results

The study analyzed 910 STEMI patients' data and grouped them by medication group and prevalence. The patients most frequently used anti-aggregating agents and beta-blockers (76.45% vs 65.73%). Lipid-lowering drugs and fibrates were similarly used by patients (56.64% vs 56.64%). Patients also frequently used diuretics and ACEi (33.73% vs 36.45%). The least commonly used drugs were calcium antagonists, central-acting agents and anticoagulants (11.18% vs 1.55% vs 0.09%).

Conclusions

The most commonly used medications were anti-aggregating agents, beta-blockers and the rarest were central-acting agents, anticoagulants.

Acknowledgements

The authors declare that there is no conflict of interest.

Occurrence of familial hypercholesterolemia in patients dyslipidemia

Author(s): Gintarė Valterytė, Neda Daukšaitė Lithuanian university of health sciences, Lithuania Presenting author: Gintarė Valterytė Tutor(s): Diana Zaliaduonyte, Ruta Jurgaitiene

The familial hypercholesterolemia(FH) are a group of genetic defects resulting in severe elevations of blood cholesterol levels and increased risk of premature coronary heart disease(CHD) 1. The Dutch Lipid Clinic Network criteria is the most commonly used diagnostic algorithm for clinical FH, and it produces scores that lead to classification of either definite, probable, possible and unlike FH². Early patient identification and treatment reduces the risk of developing acute myocardial infarction(AMI).

To evaluate the prevalence of definite, possible, probable and unlike FH cases in patients with dyslipidemias and to compare CHD risk factors among them.

The study was conducted in the University hospital Department of Cardiology. There were 217 patients(pts) with hypercholesterolemia admitted to our clinic for diagnostic or therapeutic angiography from 2017 to 2018. Patients were assessed for FH using the Dutch Lipid Clinical Network(DLCN) criteria. The cardiovascular risk factors of ischemic heart disease(IHD), clinical and laboratory parameters were collected. The statistical analysis was performed by IBM SPSS Statistics (version 23.0). Difference were considered significant when p<0.05.

Study population consisted of 217 pts: unlikely group n=9(4.15%), possible n=89(41.01%), probable n=95(43.78%), definite n=24(11.06%). The mean age of patients in unlikely, possible, probable and definite groups were $61.56\pm6.00;\ 56.03\pm6.89;\ 53.79\pm8.75;\ 53.00\pm2.46$, respectively (p= 0.019). In the unlikely, possible, probable and definite groups were 1(11.1%); 20(22.5%); 35(36.8%); 15(62.5%) women, respectively (p=0.001). The mean concentration of LDL-C in unlikely, possible, probable and definite FH groups were $4.32\pm1.16;\ 5.29\pm0.84;\ 6.04\pm1.10;\ 8.44\pm3.04,\ p<0.00$ 1. There were statistically significant difference between unlikely, possible, probable and definite groups in frequency of family history of IHD (2(22.2%); 19(22.4%); 65(70.7%); 23(95.8%), p=0.001), percutaneous transluminal angioplasty (5(55.6%); 61(71.8%); 54(60.0%); 8(38.1%) p=0.031) and obesity (31.12±4.92; 29.80±4.26; 29.62±4.31; 26.40±4.44) p=0.007. There were no statistically significant difference between groups in frequency of arterial hypertension (8(88.9%); 77(86.5%); 77(81.1%); 17(70.8%) p=0.302), diabetes mellitus (1(11.1%); 7(7.9%); 8(8.4%); 0(0.0%) p=0.517), smoking (0(0.0%); 26(30.2%); 28(31.1%); 5(25.0%) p=0.389), acute myocardial infarction (4(44.4%); 44(51.8%); 36(40.0%); 6(28.6%) p=0.196) and TG (1.69±0.62; 2.03±1.08; 2.14±1.23; 1.99±1.09, p=0.651).

The pts with definite FH were significantly younger and leaner as well as woman with FH were detected significantly more frequent than male. Pts with definite FH more frequently had family history of IHD if compare to other groups confirming the genetic impact. However, other risk factors of IHD as smoking, diabetes mellitus, arterial hypertension and smoking did not differ among the pts with unlikely, possible, probable and definite FH.

What is the impact of iron deficiency in patients suffering from heart failure?

Author(s): Jagienka Szulc, Maria Sawościan Bartosz Szmyd Medical University of Lodz, Poland Presenting author: Jagienka Szulc Tutor(s): Małgorzata Lelonek

Introduction:

Iron deficiency (ID) is a common comorbidity in heart failure (HF), associated with worse prognosis. According to ESC 2016 guidelines referring to chronic and acute HF, ID can be diagnosed if serum ferritin < 100 μ g/l or serum ferritin between 100-299 μ g/l and TSAT <20%. It was found out that i.v. iron decrease s risk of hospitalisation in patients with heart failure with reduced ejection fraction (HFrEF).

Purpose:

The aim of this study was to assess the significance of ID for the population with heart failure, especially with preserved ejection fraction (HFpEF).

Material and methods:

The study was based on a retrospective analysis of 49 women and 51 men with heart failure

(HFpEF=42%, N=42) treated between 2018 and 2020 in Department of Non-invasive Cardiology, MU of Łódź. The average patients' age was 73.28 ± 9.73 years. Statistical analysis was performed using Statistica 13.1PL (StatSoft, Tulsa, USA). The analysis was performed related to EF (HFpEF vs HFrEF).

Results:

Parameters differentiating HFrEF patients from HFpEF patients were creatinine (104.85 vs. 86.3; p=0.027), urea (10.21 vs. 7.36; p=0.018), urine acid (476.8 vs. 356.4; p=0.006) , glucose (6.56 vs. 5.58; p=0.047), TC (3.3 vs. 4.06; p=0.02), LDL (1.64 vs. 2.24; p=0.021), NTproBNP (2762 vs. 581.5; p=<0.0001) , hsTnT (24 vs. 15; p=0.001) and

selected echocardiographic parameters (LVD, IVSD, PWD, TAPSE, all P<0.05) . However , there was no significant difference in ferritin level , TSAT or ID frequency between these groups of patients . In total studied population

s ignificant differences between HF patients with and without ID were observed not only in red blood cell parameters

(HGB, MCV, MCHC, and RDW) and platelets parameters (PLT, PCT), but also in 6MWT (247.13 \pm 109.86 vs. 302.07 \pm 86.56; p=0.031) and stroke/TIA history (18% vs. 5%; p=0.045). Spearman 's rank correlation analysis revealed negative correlation between number of hospitalisations due to HF in last 12 months and HGB (r=-0.215; p=0.031) and 6MWT (r=-0.341; p=0.006), but also positive correlation between number of hospitalisations due to HF in last 12 months and RDW (r=0.314; p=0.001).

Conclusions

ID not only affects results of 6MWT, but also is associated with higher risk of stroke or TIA episodes in population suffering from HF. Thus, ID diagnosis should be performed among patients with HF, both in HFrEF as in HFpEF.

Compliance in polish adults with pulmonary arterial hypertension and chronic thromboembolic pulmonary hypertension

Author(s): Jan Bylica Jagiellonian University, Medical Collage, Poland Presenting author: Jan Bylica Tutor(s): Marcin Waligóra, Grzegorz Kopeć

Introduction: Pulmonary arterial hypertension (PAH) and chronic thromboembolic pulmonary hypertension (CTEPH) are severe and progressive diseases with poor prognosis. According to the Database of Pulmonary Hypertension in the Polish Population, the prevalence of PAH and CTEPH was 32/mill and 13/mill respectively. Although there are treatment methods that can manage pulmonary hypertension (PH), most cases are diagnosed and treated at the severe stage. Moreover, low degree of patients' compliance (degree to which the patient's behavior is consistent with arrangements communicated to him by a physician) may decrease the effectiveness of PH specific therapy.

Aim: To assess the compliance of adults in the field of pharmacological methods of PH specific treatment. Materials and methods: We enrolled in the study consecutive adult patients with PAH or CTEPH, who underwent periodical assessment in a PH referral center. We excluded patients with Down syndrome and other types of intellectual disabilities. Every patient was asked to complete two questionnaires the authorial one and Morisky Medication Adherence Scale (MMAS-8). Both were used to asses patients' compliance. Next, 3 months after completing the questionnaires, during a follow-up visit in physician's office we assessed the number of taken and skipped pills of PH specific drugs.

Results: We enrolled in the study 41 patients (75.6% females) at the median age of 66 (Interquartile Range, IQR: 47-75) with the following types of PH: PAH (73.2%) and CTEPH (26.8%). Most of participants (90.2%) considered that their disease is serious, while 65.9% of them declared that they know what PH is. Only 4.9% of patients reported that it was hard to them to remember the principles of treatment, however in more than one fourth (26.8%) of cases someone had to remember patients to take medicaments. Almost everyone (97.5%) admitted that PH specific therapy was effective. The majority of study population (70.7%) used some kind of system that facilitated memorization of drugs intake. The most common methods were: preparation of pills that needed to be taken for the whole following week (39%), asking someone to remember about the need of medicaments intake (26.8%) and preparation of pills that needed to be taken for the following day (24.4%). Less than half of patients (41.5%) admitted that they had forgotten to take PH specific drug at least once however, 92.7% declared that they had taken it the day before completing questionnaire. Most of participants (80.5%) did not report any difficulty in remembering to take all the pills, 19.5% admitted that this issue occurred sometimes/once in a while. Median number of skipped pills was 24.5 (IQR: 6-56.5), which makes about 9% of the total prescribed amount.

Conclusions: Compliance in polish adults with PAH or CTEPH is acceptable however, both physicians and patients should take actions to decrease number of skipped PH specific drugs' pills.

Hand grip strength as a predictor of decreased appetite in population of hospitalised patients diagnosed with heart failure (HF)

Author(s): Katarzyna Przytarska, Magdalena Szczechla Agata Kukfisz, Filip Sawczak Poznan University of Medical Sciences (PUMS), Poland Presenting author: Katarzyna Przytarska Tutor(s): Marta Kałużna-Oleksy, Magdalena Dudek Jacek Migaj, Ewa Straburzyńska-Migaj

Introduction:

Hand grip strength is an easily measurable and non-invasive method applicable for clinical use. Impaired muscle strength is a well-known symptom of malnutrition. Due to consistent growth in the number of patients diagnosed with HF, and numerous factors associated with worse prognosis, there is a need to diagnose decreased appetite to avoid malnutrition and its negative implications - higher morbidity, mortality and common hospital readmissions. By assessing appetite, CNAQ questionnaire can predict of an important risk factor in HF patients - malnutrition.

Aim of the study:

We aimed to determine if weakness of hand grip strength is associated with appetite loss. Methods:

112 consecutive patients with HF hospitalized in 1st Department of Cardiology, Poznan University of Medical Sciences were examined on admission by using CNAQ questionnaire. CNAQ is an 8-item instrument designed to facilitate clinical assessment of appetite and is much simpler than well known instruments like AHSP. Specificity and sensitivity for prediction of weight loss greater than or equal to 5% and 10% of body mass are higher than 80%. The grip strength was measured using a digital handheld dynamometer, twice for each hand and the higher result was used in the analysis. Clinical data including age, body mass index (BMI) and ejection fraction (EF) was collected from medical records. The statistical analysis was conducted using Statistica 13.3 (StatSoft).

Results:

From 112 patients included in the study 71 had CNAQ score greater than or equal to 29 - no impairment of appetite, 41 had CNAQ score below 29 - this group of patients needs special care due to worsened appetite and risk of malnutrition. Mean age was $55,3\pm12,5$ years, EF - $27,6\pm12,8\%$, BMI - $28,2\pm5,7$ kg/m2. The whole population consisted of 84 males and 28 females. After adjusting for body mass, height, sex, age, and EF there was a significant positive correlation between CNAQ score and grip strength (r=0,25, p=0,047). CNAQ score was also inversely correlated with patients' age (r=-0,21, p=0,026) and positively with EF (r=0,25, p=0,009), but not with body mass, height, sex or BMI. We derived best cut-off point for grip strength predicting decreased appetite from ROC curve - 27,4 kg. Patients with grip strength below 27,4 kg had lower CNAQ score than those with stronger grip (30,0±3,1 vs. 27,5±3,9, p=0,004). Weaker hand grip was the predictor of decreased appetite (CNAQ score below 29) - OR 2,39 (CL95% 1,07-5,33).

Conclusions:

To conclude, in observed population lower grip strength was a predictor of decreased appetite, independently of body mass, height, sex, age and EF. Commonly used for estimation of nutritional state, BMI, did not correlate with CNAQ score. In view of this report, it could be beneficial to assess grip strength in patients with HF, as decreased appetite is an important factor for the development of undernutrition among them.

Analysis of early outcomes after transcatheter aortic valve implantation in Hospital of Lithuanian University of Health Sciences

Author(s): Leila Varoneckaitė, Emilija Bernotaitė Lithuanian University of Health Sciences, Lithuania Presenting author: Leila Varoneckaitė Tutor(s): Vaida Mizariene

Introduction

Initially started as trial procedure, transcatheter aortic valve implantation (TAVI) rapidly became a standard life changing alternative treatment for intermediate or high risk patients with severe aortic stenosis. Despite all improvements in TAVI, procedure still has complication risks including cerebrovascular events, bleeding, conduction disturbances, acute kidney injury and etc. It is of vital importance to prevent complications by evaluating patient's risks before the procedure.

Aim of the study

To identify most common early outcomes after TAVI in order finding connections with preoperative risk factors (age, sex, arterial hypertension (AH), atrial fibrillation/flutter (AF), diabetes mellitus (DM), chronic obstructive pulmonary disease (COPD), left ventricular ejection fraction (LVEF), glomerular filtration rate (GFR)).

Materials and methods

The retrospective analysis was conducted in Hospital of Lithuanian University of Health Sciences, Department of Cardiology between 2011 to 2019 with a cohort of 101 patients after TAVI procedure. Medical records were gathered in order to evaluate age, concomitant diseases (AH, AF, DM, COPD), LVEF and GFR before the procedure. The statistical analysis was performed with SPSS 20.0. To compare results Mann-Whitney U test and Student's t test was used. Considering data as significant when p < 0.05.

Results

Out of 101 patients in our study mean age was 82 ± 4 . Trial involves 43 (42,6%) male and 58 (57,4%) female patients. Ninety-nine per cent of all the patients had comorbidity: AH - 98%, AF - 51,5%, DM - 21,8%, COPD - 6,9%. This study included 35 patients (34,7%) who had heart failure (HF) with reduced LVEF (<50%) and 66 (65,3%) with preserved LVEF (<50%). Most of the patients had a stage 3 chronic renal failure (70,3%). Out of 101 patients that underwent TAVI, death rate was 4%, stroke - 1%. Left ventricular perforation was seen at 3% of the patients, delirium - 7,9%, acute kidney injury - 10,9%, PP was implanted - 8,9%. Most frequently observed complications were: mild to moderate paraprosthetic regurgitation, with a rate of 83,2%, post-op bleeding - 20%, rhythm and conduction disorders - 27,7%, complications at the access-site - 33,7%, post-op infection - 31,7%. While comparing risk factors with complications after TAVI, we found that GFR was statistically significantly lower who needed PP implantation (33,67 \pm 16,14 vs 46,94 \pm 16,71 ml/min/1,73m2, p=0,025) and GFR was lower with rhythm and conduction disorders after TAVI (40,22 \pm 16,02 vs 47,88 \pm 17,01 ml/min/1,73m2, p=0,042). Other concomitant diseases and risk factors had no relations with early postprocedure outcomes.

Conclusions

The most common complications observed: paraprosthetic regurgitation, bleeding, rhythm and conduction disorders, complications at the access-site and infection. Renal function disorders before the procedure was associated with rhythm and conduction disturbances and with higher rate of PP implantation after TAVI.

ABI: Can we truly use it when predicting CAD? Relation between peripheral arterial disease and stage of coronary artery disease advancement

Author(s): Maciej Koźlik, Tomasz Skoczylas Joanna Sztuk, Marek Olesz Medical University of Silesia, Poland Presenting author: Maciej Koźlik Tutor(s): Maciej Kaźmierski

ABI: Can we truly use it when predicting CAD?

Relation between peripheral arterial disease and stage of coronary artery disease advancement

Department of Cardiology and Structural Heart Disease in Katowice Medical University of Silesia, Katowice Introduction: Ankle-brachial index (ABI) is widely used in patients with peripheral arterial disease (PAD).

Purpose: The current study aims to assess the usefulness of ankle-brachial index for recognising and estimating disease advancement of coronary artery disease (CAD).

Material and methods: Study included a randomly chosen group of 242 patients, 148 men and 94 women, 156 of which suffered from CAD. On the basis of coronarography patients were first classified with one, two, three or multivessel CAD (>50% obstruction). All patients had ABI measured and evaluated through medical history taking. Abnormal ABI was considered ≤ 0.9 in either leg. We divided patients into two groups: 1. ABI ≤ 0.9 (74pts) 2. ABI >0.9 (168pts) to assess the group characteristic features. Furthermore, we subdivided patients into four groups: 1. ABI ≤ 0.9 & LVEF <50% (40pts) 2. ABI ≤ 0.9 & LVEF $\geq 50\%$ (32pts) 3. ABI >0.9 & LVEF <50% (63pts) 4. ABI >0.9 & LVEF $\geq 50\%$ (107pts) to check the relation betwe- en ABI with LVEF and one, two, three and multivessel CAD. Study was conducted in 2018/2019 in Department of Cardiology and Structural Heart Disease in Katowice.

Results: Our research showed that there is a significant correlation between ABI and age, prior PCI, prior CABG, LVEF, creatinine, GFR, HDL, HCT, Hb and L-Cx lesion (p<.05). Pa-tients with ABI \leq 0.9 comparing to patients with ABI >0.9 were older (70 to 67 years), had more PCI (70.3% to 56.6%) and CABG (25.7% to 9.6%) beforehand, had lower LVEF (50 to 55%), higher creatinine (1.00 to 0.93), lower GFR (68 to 75), lower HDL (41 to 45), lower HCT (38.7 to 39.7), lower Hb (13.0 to 13.6) and more frequently L-Cx lesion (35.6% to 19.6%). There was no significant correlation between ABI and CAD. However, in the four groups there was a strong correlation between ABI with LVEF and three-vessel CAD as well as multivessel CAD (p<.05): 1. ABI \leq 0.9 & LVEF <50% comparing to 3. ABI >0.9 & LVEF <50% (30.0% to 23.8% - three-vessel CAD, 52.5% to 44.4% - multivessel CAD) as well as 2. ABI \leq 0.9 & LVEF \geq 50% comparing to 4. ABI >0.9 & LVEF \geq 50% (3.1% to 14.1% - three- vessel CAD, 37.5% to 27.1% - multivessel CAD).

Conclusions: Routine ABI examination in patients with CAD is helpful for analysing correlation between patients with abnormal ABI as well as decreased LVEF and presence of three-vessel and multivessel disease.

Keywords: Ankle-brachial index, coronary artery disease, left ventricle ejection fraction

Correlation between natriuretic peptides and appetite in patients diagnosed with heart failure with reduced ejection fraction

Author(s): Magdalena Szczechla, Katarzyna Przytarska Filip Sawczak, Agata Kukfisz Poznan University of Medical Sciences, Poland Presenting author: Magdalena Szczechla Tutor(s): Marta Kałużna-Oleksy, Magdalena Dudek Jacek Migaj, Ewa Straburzyńska-Migaj

Introduction

Due to consistent growth in the number of patients diagnosed with heart failure (HF), their readmissions rate, reduced quality of life and escalated healthcare costs, identification of the risk factors of bad prognosis is valuable. Measurement of brain natriuretic peptide (BNP) in heart failure (HF) is important to make diagnosis and assess the therapeutic process. BNP is also an independent predictor of worse prognosis. Lack of appetite can develop into cachexia which is also a negative prognostic factor.

Aim of the study

In this study we assessed correlation between BNP and appetite in patients with HF with reduced ejection fraction (HFrEF).

Material and Methods

93 consecutive patients with HFrEF hospitalized in 1st Department of Cardiology, Poznan University of Medical Sciences were included to the study and examined with CNAQ instrument on admission. Analysis covered clinical and epidemiologic data as well as BNP level. CNAQ is an easy 8-question instrument designed to facilitate clinical assessment of appetite.

Results

From 93 patients included in study, 23.7% (n=22) were women, 56 had CNAQ score ≥ 29 - no impairment of appetite, 37 had CNAQ score < 29. Mean age was 53.8 ± 11.7 years, BMI - 28.4 ± 5.9 kg/m2, EF - $25.7\pm11.0\%$. We determined best cut-off value for BNP concentration using ROC curve - 493 pg/mL. Patients with BNP level >493pg/l revealed significantly lower CNAQ score than those <493pg/l (29.8 ± 3.0 , vs. 28.0 ± 4.1 ; p=0,013). There was significant negative correlation between CNAQ score and natural logarithm of BNP level (r=0,25; p=0,013). After adjusting for body mass, growth, sex, age and decompensation of HF, negative correlation between CNAQ and log e (BNP) was still significant (r=-0,26, p=0,016). In contrary there were no significant correlation between CNAQ score and body mass, growth, age, BMI, sacubitril/valsartan intake and prevailing exacerbation of HF.

Conclusions

Higher BNP level in patients with HFrEF is associated with decreased appetite, independently from various clinical data. It can be used with more variables to develop appetite predicting models or inform clinicians about higher risk of malnutrition. There is a need of assessing risk of appetite loss using questionnaires like CNAQ in daily healthcare.

The effectiveness of mobile phone applications for heart arrhythmias detection in comparison with a 12-lead electrocardiogram and manual pulse detection

Author(s): Marcin Osyra, Luiza Rożenek Medical University of Łódź, Poland Presenting author: Marcin Osyra Tutor(s): Andrzej Lubiński

Introduction: Nowadays we can observe rapid evolution of medicine. Together with technical progress there is increasingly more possibilities of treat as well as diagnose of patients. The devices, which in the beginning required a lot of space now have size allowing to carry them all the time with you. The increasing speed of life as well causes that people are impatient and they want to obtain information about their health as soon as possible. According to their needs there are a lot of mobile devices application which can help patients to answer them in few minutes if their heart condition is all right.

Aim: The aim of study was to test the effectiveness of mobile device applications using variable measuring methods to detect cardiac arrhythmias and manual pulse detection and compare them with standard 12-lead electrocardiogram.

Material and methods: In a group of 121 patients of Department of Interventional Cardiology and Cardiac Arrhythmias and Department of Urology (mean age 6 5.4 + - 12.09, 6 7 % males) a standard 12-lead electrocardiogram, Kardia Mobile record (mobile device application recording I lead electrocardiogram with special detector), 3 records with applications using plethysmography (Diagnostyka

Kardiologiczna, HeartBeats, Photo AFib Detector) and manual pulse detection were registered. Electrocardiograms were assessed by physicians from Department of Interventional Cardiology and Cardiac Arrhythmias. The patients with impantable cardiac devices were excluded from examination.

Results: For each measuring method sensitivity and specificity was computed: Kardia 9 8 % vs 100% (p<0,001) PPV:

Hyperuricemia as a risk factor in hypertension among patients with very high cardiovascular risk

Author(s): Marta Pasławska, Paweł Muszyński Marta Maria Niewińska Medical University of Bialystok, Poland Presenting author: Marta Pasławska Tutor(s): Marcin Kożuch, Łukasz Kuźma

Introduction

Hyperuricemia is the state of elevated uric acid. Studies show that it is associated with higher cardiovascular risk. However clear definition is still a subject of considerations. Proposed criteria are uric acid higher than 5,7 or 10 mg/dl. ESC in 2018 for the first time consider hyperuricemia as a risk factor in hypertensive patients. It has been widely discussed among cardiologists for many years and in our country experts already in 2017 created a statement suggesting starting the treatment from 5 mg/dl in patients with high/very high cardiovascular risk. The lower serum uric acid the more beneficial it is in that group of patients. For that reason further investigation of that matter is crucial.

Aim of the study

Comparison of organ complications prevalence between hypertensive patients with very high cardiovascular risk with different levels of uric acid in serum.

Materials and methods

Study population consisted of 705 patients (age: 67 y.o 9,85 , male: 65,81%) admitted into Department of Invasive Cardiology, University Hospital for invasive treatment or further diagnostic process. Inclusion criteria was hypertension and stable coronary artery disease. All patients were characterised with a very high cardiovascular risk and typical CAD risk factors . We divided study population into two subgroups: (I) with level of uric acid in blood serum > 5 mg/dl. Analysis of patients' medical history and laboratory tests was made. Statistica 10.0 was used to calculate all the data. P value < 0.05 was considered as statistically significant.

Results

71% (n=502) of our patients had blood serum uric acid > 5 mg/dl, 27.35% > 7 mg/dl and only 2.56% > 10 mg/dl. In our study we noticed that male gender (70.92% vs. 53.20%; p<0.0001), BMI>25 (82.67% vs. 73.89%; p=0.0086), chronic kidney disease (16,33% vs. 7.39%; p=0.0024) and chronic obstructive pulmonary disease (6.77% vs. 2.96%; p=0.0538) may be the risk factor of uric acid > 5 mg/dl. However we found no difference in age, SBP, DBP and blood glucose level. We observed higher rate of atrial fibrillation (10.96% vs. 3.45%; p=0.0026), heart failure (47.41% vs. 33.50%; p=0.0008), limb ischemia (8.57% vs. 6.40%; p=0.0319) among patients with uric acid in blood serum > 5 mg/dl and hypertension. The heart failure was mostly connected with lower left ventricular ejection fraction. There was also trend towards higher frequency of eccentric hypertrophy in group of patients with higher uric acid levels (p=0.0607).

Conclusions

In our study we found that hypertension and uric acid in blood serum > 5 mg/dl leads to more complications. Treatment from value other than > 5 mg/dl may decrease the number of patients that could have received benefits from lowering uric acid, especially in group of very high cardiovascular risk. Withholding the BMI in rage from 19 to 24.9 may be a useful prophylactic tool.

Heart failure with preserved ejection fraction: characteristics of patients

Author(s): Simona Naudžiūnaitė Vilnius University, Lithuania Presenting author: Simona Naudžiūnaitė Tutor(s): Jelena Celutkiene, Monika Laukyte - Sleniene

Introduction. Observational and registry studies in heart failure have established that about half of all patients with heart failure have a normal or near-normal ejection fraction. This syndrome is termed heart failure with preserved ejection fraction (HFpEF).

Purpose. The purpose is to analyze the peculiarities of medical data in patients with HFpEF.

Material and methods. A prospective study called Heart failure III is conducted April, 2019 at Vilnius University Santaros Klinikos. There are currently 151 patients enrolled in this registry. Medical information is based on data stored in the Hospital Information System and filled in participants 'questionnaires (EQ-5D) . Collected data is processed in IBM 's SPSS Statistics 21.0 software. The chosen significance level was 0.05.

Results. The research sample consists of 151 patients. 7.3 % of these patients were not measured for EF, so they were excluded from further analysis. Thus, a total of 140 patients were evaluated, 52 (37.1 %) of these patients were identified having a heart failure with preserved EF (HFpEF) (≥ 50 %). Comparing patients with HFpEF and with HFrEF, statistically significant differences were identified in the mean age: 71.1 ± 12.8 and 64.0 ± 11.9 years, the female/male ratio: 28/24 (53.8/46.2 %) and 20/68 (22.7/77.3 %), the smoking status (yes/no): 3/49 (5.8/94.2 %) and 16/72 (18.2/81.8 %), the mean creatinine level: 140.41 and 119.18 μ mol/L, respectively. Although BMI did not have a significant effect among these analyzed groups, the EF increase was directly correlated with the increase of BMI: r = 0.173; p = 0.041. There was also a significant correlation between increasing EF and worsening assessment of self-care ability: r = 0.181; p = 0.032. Although the study revealed that the levels of anxiety and pain tend to decrease due to the increased volume of blood ejected but will rise with the declining evaluation of health status on VAS scores, p > 0.05. Comparing prescribed medical treatments for HFrEF and HFpEF groups, were observed a statistically significant distribution in the use (yes/no) of ACEi/ARB/ARNi: 35/17 (67.3/32.7 %) and 76/12 (86.4/13.6 %), and a difference of usage between these medication groups: 28/6/1 (80/17.1/2.9 %) and 32/8/36 (42.1/10.5/47.4 %), respectively. The usage of diuretics among analyzed groups was equal: respectively 47 (90.4 %) and 79 (89.8 %), but there was a statistically significant difference in the usage of other drugs, like BB, MRA, ivabradine.

Conclusions. HFpEF was more commonly observed in women, also in non-smoking and elderly patients. Although body weight had no significant effect on EF, a direct correlation between EF and BMI was found. A growth in BMI was also associated with a poorer self-care evaluation and a poorer health status score on VAS. There were statistically significant differences in the usage of ARNi, BB, MR, and ivabradine between analyzed groups.

The old player in a brand new game - effectiveness of antazoline in pharmacological cardioversion of atrial fibrillation

Author(s): Tomasz Dembowski Medical University of Lodz, Poland Presenting author: Tomasz Dembowski Tutor(s): Dawid Miśkowiec

Introduction: Antazoline (ANT) is an old antihistaminic medication with antiarrhythmic properties. After intravenous administration ANT exerts rapid antiarrhythmic effect often resulting in conversion of persistent atrial fibrillation (AF) to sinus rhythm (SR). However, published data on its effectiveness, safety and

clinical utility for rapid AF termination are limited and ANT is not recognized as a cardioversion drug. Aim

To assess the real-world efficacy of ANT for pharmacological cardioversion of paroxysmal and persistent non-valvular AF.

Methods:

We conducted a single center, retrospective, observational study including patients (pts) with history paroxysmal or persistent AF episode lasting less than 6 months, in stable cardiopulmonary condition who were qualified for elective pharmacological cardioversion with intravenous ANT. The primary end-point was the conversion of AF to SR confirmed in electrocardiography (ECG) during the 6-hours observation.

Results:

A total of 176 pts (mean age 68.4 ± 12.0 years, 49% male) were enrolled into the study. In 93 patients (52%) AF duration was shorter than 48 hours and median AF duration time was 24 (7 - 432) hours. The overall success rate of pharmacological cardioversion of AF with intravenous ANT was 45.5% (80/176 pts). The mean used dose of ANT was 250.9 ± 65.4 mg. The subgroup analysis, regarding the AF duration, suggested the effectiveness of ANT mainly in in short-lasting AF (effectiveness of antazoline based cardioversion for AF lasting <48h vs others:

75.3% vs 12.0%,

p<0.001). In multivariable logistic regression model AF duration (for every 24h in AF - OR=0.97; 95% CI 0.96 - 0.98), the left atrium antero-posterior diameter (OR=0.92; 95% CI 0.86 - 0.99) and the serum creatinine level (OR=0.15; 95% CI 0.03 - 0.73) were identified as

independent predictors of antazoline based pharmacological cardioversion effectiveness, even after adjustment for comorbidities. The ROC curves revealed that the optimal cut-off value for AF duration time predicting ANT's effectiveness was 48h (AUC=0.876; 95% CI 0.815 - 0.922). There were only one episode of bradycardia <45 bpm related to ANT administration.

Conclusions:

Intravenous antazoline administration is effective and safe in rapid pharmacological cardioversion of paroxysmal AF, especially in the short-lasting AF (<48 hours) and in patients without the left atrium enlargement and significant renal disease.

Physical capacity assessment in cardiac rehabilitation for the elderly after cardiac surgery: gender differences

Author(s): Urtė Lukauskaitė, Kamilė Gerulytė Lithuanian University of Health Sciences, Lithuania Presenting author: Urtė Lukauskaitė Tutor(s): Egle Tamuleviciute-Prasciene

Introduction

The growing challenges of advanced age, frailty, and multisystem comorbidities among cardiac patients have broadened perspectives and rationale regarding physical capacity assessment for cardiac rehabilitation (CR).

Aim

To identify gender-related differences in results of the 6-min exercise test (6MET) and the Short Physical Performance Battery (SPPB) for patients after cardiac surgery in a CR setting.

Methods

The study involved patients (pts) treated in the Kulautuva rehabilitation hospital after cardiac surgery (N = 78) from October 2016 till October 2018. All respondents received an individual comprehensive CR. Pts 'physical capacity was evaluated with the 6MET

and SPPB methods before and after Phase II CR. Statistical calculations (t-test) were performed using SPSS 22.0 software. Data is presented as the mean and standard deviation, statistically significantly different at P < 0.05. Kaunas Regional Bioethics Commission Permits No BE-2-39/BE-2-57 were obtained.

Results

The study involved 40 (51.28 %) women and 38 (48.72%) men. The average age of the women (76.42 \pm 7.25 years) and men (74.47 \pm 6.13 years), as well as the prevalence of comorbidities, did not significantly differ (p>0.05). Although men performance at the beginning of CR was better in both test, results did not vary significantly: the 6MET 263.21 \pm 106.24 vs 223.82 \pm 74.17 meters (p=0.060), SPPB 8.53 \pm 2.24 vs 7.2 \pm 1.95 score (p=0.095). After CR, both groups improved the 6MET distance, with no significant difference in between (men - 373.82 \pm 96.92 vs women - 330.63 \pm 94.33, p=0.050). While SPPB tests results showed significantly better performance for men

 $(10.08 \pm 1.94 \text{ vs } 8.60 \pm 2.41, p=0.004).$

Conclusions

6MET may be not enough sensitive tool to evaluate functional limitations beyond the aerobic capacity for elderly patients.

Elevation of uric acid in metabolic syndrome patients and association with arterial markers

Author(s): Vaida Sudmantaitė Vilnius University, Lithuania Presenting author: Vaida Sudmantaitė Tutor(s): Jolita Badariene, Roma Puronaite

Introduction There is increasing evidence that metabolic syndrome may be associated with increased uric acid levels. A lot of studies indicate that hyperuricemia is an independent risk factor for cardiovascular disorders.

Aim of the study To examine the uric acid levels and its association with vascular indices among middle aged Lithuanians with metabolic syndrome.

Matherial and methods There were 708 participants, who were involved by age between 40 and 65 years and diagnosed metabolic syndrome according to the NCEP ATP III definition. Vascular tests, including evaluation of endothelial function, carotid-femoral and carotid-radial pulse wave velocity (PWV) and augmentation index (AIx) measurement, intima media thickness (IMT) and evaluation of plaques, were obtained.

Results Out of 708 participants, 441 (62.3%) were women and 267 (37.7%) were men. The mean age of studied group was 53.62 ± 6.59 years. Mean calculated carotid-femoral PWV ($8.51 \pm 1.45 \text{m/s}$) was statistically significant higher in the female group (p < 0.001), but mean calculated carotid-radial PWV ($9.4 \pm 1.12 \text{ m/s}$) was higher in men group (p < 0.001). Mean AIx was $26.5 \pm 10.7\%$, with women having significantly higher values (p < 0.001). Mean carotid arteries IMT (mean of the right and left) was within the normal range. Atherosclerotic plaques were found in 400 patients (56.5%), with higher values in women (p=0.002). We found a significant relationship between serum uric acid (SUA) levels and carotid-femoral PWV, especially in women. Contrary, it was a strong negative relation between SUA levels and AIx in men compared to women.

Conclusion Our analyses showed an association between SUA levels and arterial stiffness as assessed by carotid-femoral PWV, especially in women group. Based on the results, the pulse wave velocity increases with increasing serum uric acid concentration.

Prevalence of risk factors and hyperuricemia among patients with metabolic syndrome

Author(s): Vaida Sudmantaitė Vilnius University, Lithuania Presenting author: Vaida Sudmantaitė Tutor(s): Jolita Badariene, Roma Puronaite

Introduction Metabolic syndrome is a group of interrelated metabolic disorders that include glucose tolerance disorder, insulin resistance, abdominal obesity, dyslipidemia and arterial hypertension. The prevalence of metabolic syndrome is high worldwide and it is increasing. It is well known that individuals with metabolic syndrome are at increased risk of cardiovascular disease, type 2 diabetes, nonalcoholic fatty liver disease, stroke and cancer.

Aim of the study To evaluate distribution of risk factors among metabolic syndrome patients, including uric acid.

Material and methods We examined 708 subjects with metabolic syndrome diagnosed using National Cholesterol Education Program Adult Treatment Panel III criteria and age between 40 and 65 years. We measured body mass index, waist circumference, serum cholesterol, triglycerides, serum glucose, serum uric acid concentrations, and the number of smoking patients.

Results Out of 708 participants, 441 (62.3%) were women and 267 (37.7%) were men. The mean age of population was 53.62 ± 6.59 years. The mean body mass index was 31.66 ± 4.5 kg/m², with no significant difference between men and women. Ten percent of patients were smoking more than 10 cigarettes per day and 11.4% - less than 10 cigarettes per day. The majority of patients had primary arterial hypertension (86.3%) and dyslipidemia (97.2%). About a fifth of patients had diabetes. 33.2% of all patients had hyperuricemia, however, the average was within the normal range (333 \pm 81.6 mmol/l in women vs. 402 ± 77.5 mmol/l, p < 0.001).

Conclusion Our analysis showed that both men and women with metabolic syndrome are more likely to be obese and have arterial hypertention, as well as dyslipidemia with no significant differences. Patients were also found to develop changes in uric acid levels, which could cause comorbidities.

What affects the STEMI patient survival during hospitalization?

Author(s): Viktorija Selskaitė, Giedrė Smaliukaitė Vilnius University, Lithuania Presenting author: Viktorija Selskaitė Tutor(s): Pranas Serpytis

Introduction

Acute cardiovascular disease is one of the leading causes of death worldwide. Also, there are many known cardiovascular risk factors, some of them are known globally. But there is the lack of research what influences survival when a cardiovascular accident occurs. Despite the fact that prognosis of patients with acute coronary events has improved over the past decade owing to the use of guideline-recommended therapies, mortality rate still high. There is still a perceived need for better investigation of the outcome of myocardial infarction.

 Aim

The aim of the study was to determine what factors influence the outcome of myocardial infarction during hospitalization.

Methods

The study included a retrospective analysis of patients with ST-elevation acute myocardial infarction (STEMI) who were treated in Vilnius University Hospital Santara Clinic in 2014-2015. 989 patients were enrolled in the study. The study data were analyzed using the SPSS statistical software and Microsoft Excel. The research results were considered statistically significant when p was <0.05.

Results

The study investigated 989 patients of which 651 (65.8%) were men and 338 women (34.2%). The mean age was 67.21 ± 12.32 years, median of age was 67.00. Mortality during hospitalization was 81 (8.2%) of all investigated patients. There was a statistically significant correlation between mortality and infection (r=-0.094, p=0.003), Killip class (r=0.658, p<0.001) and arterial blood pressure increase (r=0.110, p=0.007) in the overall group. Statistically significant difference was also observed between the outcomes and ventricular fibrillation (r=-0.255, p<0.001), heart failure (r=0.181, p<0.001), duration of hospitalization (r=0.179, p<0.001).

Conclusions

Mortality in patients with STEMI depends on infection, Killip class, arterial blood pressure increase, ventricular fibrillation, heart failure and duration of hospitalization.

Relationship of pregnancy rate to subsequent development of cardiovascular events

Author(s): Viktorija Selskaitė, Giedrė Smaliukaitė Vilnius University, Lithuania Presenting author: Viktorija Selskaitė Tutor(s): Vilma Dzenkeviciute

Introduction

It has been observed that women who have had arterial hypertension during pregnancy have been shown to be at higher risk for having early coronary heart disease. However, there is little data on which risk factors determine its development. The aim of the study is to assess risk factors.

Aim

The study aim is to determine whether there is a relationship between the number of pregnancies and cardiovascular risk.

Methods

Anonymous questionnaires were used to collect data on cardiovascular risk factors and pregnancy. Collected data: age, height, weight, harmful habit of smoking, diagnosis of arterial hypertension, number of births, date of birth, arterial hypertension in pregnancy, overweight in pregnancy, diagnosis of diabetes mellitus during pregnancy, number of preterm births. The study group consisted of 57 women participating in the primary cardiovascular disease prevention program at the Santara Clinic of Vilnius University, Department of Cardiology. Data analysis was performed using IBM 's statistical program package SPSS 20.0. Comparisons of risk factors for cardiovascular disease were determined by the chi-square test. P values <0.05 are considered significant.

Results

The mean age of investigated women was 57.49 ± 5.41 years and the mean of height was 162.30 ± 14.73 centimeters. The average weight for women was 82.20 ± 18.01 kilograms. 33.9 % of all analyzed women had one birth, two birth had 51.8%, three - 12.5%, and four - 1.8 %. Unfortunately but high blood pressure statistically significantly does not depend on the number of deliveries (r=0.253, p=0.309). Also, high blood pressure after childbirth statistically significantly does not depend on whether the arterial blood pressure was higher during pregnancy (r=0.015, p=0.913). The increase in arterial blood pressure is not statistically significantly dependent on smoking (r=0.084, p=0.525).

Conclusions

High blood pressure after pregnancy statistically significantly does not depend on the number of deliveries, whether the arterial blood pressure was higher during pregnancy and the history of smoking.

Does BMI Have an Influence on Endothelial Function Measures Investigated by Laser Doppler Flowmetry?

Author(s): Zivile Girkantaite Vilnius University, Lithuania Presenting author: Zivile Girkantaite Tutor(s): Jolita Badariene

Introduction.

Obesity is associated with macrovascular endothelial dysfunction, a determinant of outcome in patients with coronary artery disease. However, there is a lack of research on the influence of obesity on microvascular endothelial function.

Aim of the study. To analyze the differences of endothelial function measure determined by using laser Doppler flowmetry between different Body Mass Index (BMI) groups.

Material and methods . 3081 patients (1865 women and 1216 men) with established high cardiovascular risk were analyzed. The study was conducted during the period of

2 010-2014 at Vilnius University Hospital Santaros Klinikos. All the patients were referred by the primary health care institutions under Lithuanian High Cardiovascular Risk (LitHiR) primary prevention program. LitHiR program included women at the age of 50-65 years and men at the age of 40-55 years without overt cardiovascular disease. Microvascular reactivity was evaluated using the laser Doppler technology in combination with post-occlusive reactive hyperemia test for measurement of cutaneous microvascular perfusion changes. The percentage change between the rest and the peak flow (RF-PF) was calculated and used as a measure of endothelial function.

Results . A correlation between RF-PF scores and different BMI was found

(r = -0.122; p<0.001). The study revealed significant differences in RF-PF scores between three groups of different BMI: normal (BMI 18.5-25; n=150), overweight (BMI 25-30; n=1087), obese (BMI \geq 30; n=1833). Mean (SD) of RF-PF

s cores increased from obese (327.78 (239.08)), to overweight (379.86 (288.78)), to normal (465.98 (355.73)) BMI groups, and the differences were statistically significant p < 0.001.

Conclusions . Higher BMI is associated with microvascular endothelial dysfunction in patients with established high cardiovascular risk.

Further studies are necessary to investigate the role of endothelial dysfunction as a predictor of outcome in patients with a high ${\rm BMI}$.

Effect of Smoking Cessation on Endothelial Function

Author(s): Zivile Girkantaite Vilnius University, Lithuania Presenting author: Zivile Girkantaite Tutor(s): Jolita Badariene

Introduction.

Cigarette smoking is one of the most prevalent and preventable risk factor for cardiovascular diseases .

Smoking is associated with a generalized impairment of the vascular function, including the impairment of microvascular function, however, there is a lack of studies that assess microvascular endothelial function in patients who stopped smoking.

Aim of the study. To analyze the differences of endothelial function measures determined by using laser Doppler flowmetry between smokers, non-smokers and patients who stopped smoking.

Material and methods. 3081 patients (1865 women and 1216 men) with established high cardiovascular risk were analyzed. The study was conducted during the period of 2 010-2014 at Vilnius University Hospital Santaros Klinikos. All the patients were referred by the primary health care institutions under Lithuanian High Cardiovascular Risk (LitHiR) primary prevention program. LitHiR program included women at the age of 50-65 years and men at the age of 40-55 years without overt cardiovascular disease. Microvascular reactivity was evaluated using the laser Doppler technology in combination with post-occlusive reactive hyperemia test for measurement of cutaneous microvascular perfusion changes. The percentage change between the rest and the peak flow (RF-PF) and the ratio of areas under hyperemia and occlusion curves (AH/AO) were calculated and used as measures of endothelial function.

Results. Patients who stopped smoking had duration of smoking cessation ranging from half a month to 40 years (mean (SD): 61.58 (72.14) months). The study revealed significant differences in RF-PF scores between non-smokers, patients who stopped smoking and smokers (369.29 (273.95) vs. 349.52 (253.39) vs. 305.61 (249.91), respectively; p<0.001). AH/AO scores also differed statistically significantly

between non-smokers, patients who stopped smoking and smokers (0.8 (0.99) vs. 0.77 (0.79) vs. 0.66 (0.9), respectively; p<0.001).

Conclusions. Our study confirms that smoking is associated with microvascular endothelial dysfunction. Smoking cessation leads to improvements in endothelial function. However, endothelial function in patients who stopped smoking still remains inferior to non-smokers.





Coordinators: Kinga Klimczak, Paulina Grab,

Jury: dr n. med. Marek Kopala , lek. Piotr Kaźmierczak,

Implantation of a leadless pacemaker in a patient with recurrent hypersensitivity to a transvenous pacemaker

Author(s): Anna Maciąg, Bartosz Bichalski Dominika Wiktor, Marta Jagosz , Wiktoria Kowalska, Barbara Smyczek Szymon Wyrwas Medical University of Silesia, Poland Presenting author: Anna Maciąg Tutor(s): Ewa Jędrzejczyk - Patej, Beata Średniawa

Introduction

A biocompatible material is defined as one that does not lead to an acute or chronic inflammatory response but does not prevent a proper differentiation of implant-surrounding tissues. Despite the most careful choice of materials for cardiac implantable electronic devices hypersensitivity reactions are still being observed. Different approaches to this problem have been described, sometimes these reactions can be self-limiting but most often the device must be ultimately removed. However a vast majority of patients require pacemaker reimplantation. Many approaches have been undertaken in this matter, yet there are no guidelines covering this issue. We present a case of the newest pacing technology use as an answer to recurrent skin reactions - a leadless pacemaker.

Case report

The case concerns a 24-year old patient with recurrent skin reactions to a dual chamber transvenous pace-maker, implanted due to third-degree atrio-ventricular block. First skin reaction occurred during one of the scheduled pacemaker controls. The symptoms were: skin redness, swelling, pain, and they resolved spontaneously. Another skin reaction was noted after over 2 years and manifested as skin redness with swelling. Urgent admission to the hospital was recommended to perform the pocket revision with pacemaker replacement in subpectoral region. In postoperative period no complications were observed although after one month from device reposition symptoms such as thinning of the skin, purulent discharge and fistula in the pocket of the device were recognized. Again, local condition improved spontaneously. Recurrence of symptoms took place 3 months after revision and manifested as pain and bruising. Despite of implemented pharmacotherapy the device had to be removed. Pacemaker removal was performed with subsequent implantation of leadless MicraTM Transcatheter Pacing System (Micra TPS, Medtronic, Minneapolis, MN, USA). No complications during follow up were observed.

Conclusions

A leadless pacemaker might be a promising solution for patients with recurrent allergic reaction to a transvenous pacemaker. There is a lack of guidelines for management in patients with recurrent hypersensitivity to a pacemaker and this issue requires more researches.

3D imaging techniques compared to 2D imaging in minimally invasive mitral valve surgeries

Author(s): Ewa Olek, Karolina Czarnecka Janina Finke, Michał Pasierski Medical University of Warsaw, Poland Presenting author: Ewa Olek Tutor(s): Jakub Staromłyński

Introduction Minimally invasive mitral valve surgery (MIMVS) has grown into an increasingly more significant method of treating complex MV diseases in comparison to standard sternotomy approach. Technological advances in video-assisted endoscopy have led to introduction of 3-dimensional systems as an alternative to 2-dimensional imaging. An apparent advantage of those solutions is improved depth perception, critical in complex repairs .

Aim of the study The objective of this study was to evaluate two display (3D vs 2D) systems' surgical efficacy, safety and long-term survival in patients undergoing MIMVS.

Materials and methods: Data of 400 patients who underwent minimally invasive mitral valve or mitral and tricuspid valve surgery between 2011 and 2018 was retrospectively analysed. Right mini-thoracotomy was performed through a 4.0 to 6.0-cm skin incision in the fourth or fifth intercostal space depending on preoperative imaging; from 2015 forward, 3.5 to 4.0-cm periareolar access was adopted. As of 2016 a 3D imaging devices have been implemented. Cardiopulmonary bypass, aortic cross clamp and operating times were analyzed. Long-term survival analysis was performed with Cox proportional hazards models used for computations.

Results: Of included patients, 197 were operated using a 2D imaging system and 203 with a 3D imaging system. Between the groups there were no difference in age (median 65.9 in 2D group vs 65.6 in 3D group, P=0.34), baseline surgical risk (EuroSCORE 1.83 vs 1.93, P=0.35) or tricuspid valve intervention (31.6% vs 31.03%, P=0.91). There were no statistically significant differences in cardiopulmonary bypass time (161[IQR: 126.0-199.5] vs 160 [IQR: 120.0-198.5] minutes, P=0.95), aortic cross-clamp time (71 [IQR: 58.8-103.0] vs 80.0 [IQR: 57.5-96] minutes, P=0.83) and duration of surgery (375 [IQR: 308.8-435.0 vs 370 [IQR: 331.3-423.75] minutes, P=0.79]. Over 8-year study period, there was no difference in survival between two groups (Hazard Ratio, for 3D imaging, 0,93; [95%Confidence Interval: 0.52-1.67].

Conclusions: As compared to 2D imaging, applying 3D display techniques is both safe and efficient with no noticeable disparity in surgery time, cardiopulmonary bypass time or cross-clamp time. Moreover, the long-term follow-up did not indicate a difference in patients' survival. Evaluating changes between those endoscopic systems should be a case of further investigation.

The effect of extracorporeal circulation on the cognitive functions of patients in the perioperative period.

Author(s): Kacper Luchowski, Aleksander Turczynowicz Dominik Andrzej Panasiuk Medical University of Białystok, Poland Presenting author: Kacper Luchowski Tutor(s): Piotr Jakubów

INTRODUCTION: Cardiac operations require intervention in the functioning of the heart. Operations can be divided into those in which extracorporeal circulation is used and those in which the heart works throughout the surgery. These effects are associated with impaired blood supply and oxygenation of tissues and organs, especially the sensitive to hypoxia of the brain.

AIM OF THE STUDY: To determine the impact of the use of extracorporeal circulation on the cognitive functions of patients in the perioperative period, whose deterioration may be an early indicator of brain damage, and to examine whether it is a significant factor in cognitive impairment.

MATERIALS AND METHODS: Prospective, non randomized, one-center study, 50 patients (44 males, 6 females). Including 35 patients with extracorporeal circulation (31 males, 4 females), 15 patients without extracorporeal circulation (12 males, 3 females). The Montreal Cognitive Assessment Test (polish adaptation) and Choynowski's memory test were used for evaluation in patients before and after cardiac surgery. The studies were conducted from October 2019 to January 2020. The studies were carried out with each patient in a separate room in silent and concentrated conditions. The pre-surgery examination was performed after admission to the Clinic, we performed the examination after a minimum of 48 hours after returning from the postoperative ward to the cardiac surgery ward.

RESULTS: The mean result of MoCA test with extracorporeal circulation (p=0.3) and without (p=0.8) did not change significantly. Changes in extracorporeal circulation: worsening of the result of the visual-spatial function by 0.73 point (p < 0.05), the verbal fluency by 1.3 point (p < 0.05), the remark by 0.34 point (p=0,050049), the orientation by 0.44 points (p < 0.05), improvement in the abstraction by 0.26 points (p < 0.05) and the deferred memory by 0.86 points (p < 0.05), in the Choynowski's test improved by 9.3 points (p < 0.05). Changes without extracorporeal circulation: worsening of the drawing test by 0.21 points (p=0.19), worsening of the naming by 0.21 points (p=0.08). Improvement of the deferred memory by 0.78 points (p=0.16), in the Choynowski's test improvement by 5 points, (p=0.2).

CONCLUSIONS: Cardiac surgery may be an important risk factor for cognitive impairment in the perioperative period associated with brain hypoxia during surgery, and therefore also a deterioration in the quality of life of patients operated on in cardiac surgery departments. The use of extracorporeal circulation may be a stronger risk factor for cognitive impairment and may be associated with a greater deterioration of patients' cognitive function in the perioperative period than operations performed without extracorporeal circulation. Improving abstraction can be caused by later thinking about the task. Improving memory may involve patients remembering words.

Periareolar approach vs mini-thoracotomy - the impact of surgical approach on long term survival and surgical outcomes in patients who underwent MIMVS

Author(s): Karolina Czarnecka, Ewa Olek Janina Finke, Michał Pasierski Medical University of Warsaw, Poland Presenting author: Karolina Czarnecka Tutor(s): Jakub Staromłyński, Mariusz Kowalewski Piotr Suwalski

Introduction: Minimally invasive mitral valve surgery (MIMVS) has become widely accepted alternative to standard sternotomy approach for the treatment of mitral valve disease. Minimally invasive cardiac surgery was associated with decreased postoperative pain, shorter hospital stay and cost effectiveness. With excellent clinical outcomes the emphasis has moved towards improved aesthetical results. At our department since 2015 we adopted periareolar approach through the natural scarring around right nipple.

Aim of study: Current study aimed to evaluate surgical outcomes and long term survival in patients operated with periareolar approach compared to standard mini-thoracotomy technique.

Material and methods: We retrospectively analyzed 400 patients who underwent minimally invasive mitral valve or mitral and tricuspid valve surgery between 2011 and 2019. Right mini-thoracotomy was performed through a 4.0 to 6.0-cm skin incision in the fourth or fifth intercostal space depending on preoperative imaging; from 2015 forward, 3.5 to 4.0-cm periareolar access was adopted whenever applicable. Cardiopulmonary bypass, aortic cross clamp and operating times were analyzed. Long-term survival analysis was performed with Cox proportional hazards models used for computations.

Results: Of included patients, 185 (24% female) were operated using a periareolar approach and 215 (60% female) with a standard mini-thoracotomy. Between the groups there were no difference in age (median 66.0 in mini-thoracotomy group vs 65.6 in periareolar group, P=0.62), baseline surgical risk (EuroSCORE 1.90 vs 1.78, P=0.62) or tricuspid valve intervention (28.37% vs 30.81%, P=0.66). There were no statistically significant differences in cardiopulmonary bypass time (165.0[IQR: 127.5-200.0] vs 160.0 [IQR: 120.0-190.0] minutes, P=0.31), aortic cross-clamp time (81.5 [IQR: 60.0-106.8] vs 84.0 [IQR: 66.5-111.0] minutes, P=0.33) and duration of surgery (375.0 [IQR: 315.0-435.0 vs 369 [IQR: 330.0-420.0] minutes, P=0.64]. Over 8-year study period, there was no difference in survival between two groups (Hazard Ratio, for periareolar approach, 0.80; [95%Confidence Interval: 0.44-1.45]). Conclusions: Periareolar approach for minimally invasive mitral valve surgery is safe and feasible access that allows an accurate surgical technique without increasing surgery time, cardiopulmonary bypass time and aortic cross-clamp time. Based on long-term follow up, survival of patients operated with periareolar approach brings better aesthetical outcomes than mini-thoracotomy. Investigation of differences between those two techniques should be the matter of further studies.

Circumflex coronary artery occlusion as a complication from mitral valve re-replacement - case report

Author(s): Katarzyna Wijatkowska, Diana Marańska Uniwersytet Medyczny im. Piastów Śląskich we Wrocławiu, Poland Presenting author: Katarzyna Wijatkowska Tutor(s): Wojciech Kustrzycki

Introduction

Circumflex coronary artery occlusion is one of the most serious complications of the mitral valve surgery. Subsequent valve replacements, inflammatory changes and scarring of the ventricular tissue are predisposing factors to increase frequency in occurrence of complications, as in the presented case. The key to successfully counteracting extensive heart attack and subsequent impairment of ventricular contractility is rapid diagnosis and surgical treatment of the arterial occlusion.

A case report

We present the case of a 44-year-old man operated due to mitral valve dysfunction. Five years prior to the surgery our patient underwent mitral and tricuspid valve replacement with biological prostheses - due to massive endocarditis. Currently, the prosthesis dysfunction had also a bacterial background. The valve was replaced with a 31mm biological prosthesis, the operation seemed to had proceed without any complications.

On the first day after surgery, severe chest pain, shortness of breath, and general deterioration of the patient 's condition were observed. Coronary angiography revealed the proximal amputation of the circumflex artery. An urgent coronary artery bypass grafting was performed; the occluded artery was grafted with the saphenous vein graft. In the postoperative course, no regional contractility disorders or ejection fraction reduction were observed. Further postoperative course was uncomplicated, the patient was discharged form ICU on the 4th post-operative day and from the hospital on the 10th day.

Conclusions

Replacement of the mitral valve prosthesis causes many difficulties and carries the risk of potentially fatal complications such as the lining of the circumflex artery in the area of the mitral valve ring. Rapid recognition and solution of this complication allows effective avoidance of the ischemic effects. The superiority of the surgical method over the possible angioplasty of the vessel is also important; because unlike in coronary artery disease, the cause of obstruction of the vessel is its external, mechanical closure. The only salvation is the rapid grafting of the occluded coronary artery, as evidenced by the case described.

Analysis of sternal instability after medial sternotomy cardiac surgery

Author(s): Katarzyna Wijatkowska, Diana Marańska Uniwersytet Medyczny im. Piastów Śląskich we Wrocławiu, Poland Presenting author: Katarzyna Wijatkowska Tutor(s): Wojciech Kustrzycki

Introduction

Sternal instability is one of the most common complications of cardiac surgeries performed with full medial sternotomy. It is often accompanied by an infection of the postoperative wound. In this paper we draw attention to the importance of predisposing factors; we analyze the results of wound cultures - both at the beginning and during treatment with vacuum dressing.

Aim of the study

The aim of the study was to analyze the instability of the sternum observed in the population of patients after procedures with full medial sternotomy; to determine probable predisposing factors and pathogens causing postoperative wound infections. The aim was also to propose methods to prevent these complications in the future.

Material and methods

Postoperative course and complications from sternum and postoperative wound were retrospectively analyzed in patients operated in our center between 2015-2017. Probable factors predisposing to the occurrence of complications were identified and the results of the cultures were analyzed by identifying the most common pathogens.

Results

Out of 2315 midline sternotomy surgeries between 2015 and 2017, sternal instability was observed in 69 cases, which is 2. 98%. Among predisposing factors, diabetes mellitus (found in 35 patients - 51%) and chronic coughing (18 patients - 26%) were the leading factors. In the first wound culture in a patient with postoperative sternum instability, MRCNS dominates (18 cases - 26%), attention is drawn to 16 cases (23%) in which the first culture was sterile, while the remaining strains detected were less specific - endogenous, constituting the patient 's bacterial flora; sporadically, infections with bacteria normally not present in the body occurred. In the general bacteriological analysis of the causes of wound infection MRCNS dominated (29 persons - 42%), followed by MSSA (12 cases - 17%), Enterobacter and Klebsiella and other less common pathogens.

Conclusions

Sternal instability and infection of the postoperative wound are the common complications of cardiac surgeries performed with midline sternotomy. In our opinion, the predisposing factors are diabetes and severe coughing after surgery. It seems that the wound closure technique and the patient 's individual circumstances also have an impact, as the first sterile wound cultures are noted. Among other things, it was proposed to modify the technique of subcutaneous tissue approximation to avoid ischemia. Identification of the general bacteriology of wounds allows to modify the empirically introduced treatment if the features of infection are found.

MINOCA - a new challenge in cardiology!

Author(s): Marcin Talaga Medical University of Lodz, Poland Presenting author: Katarzyna Nawarska Tutor(s): Michał Plewka

Introduction

Myocardial infarction is one of the leading causes of mortality in the world. According to the fourth definition of myocardial infarction, myocardial infarction is the necrosis of myocardial cells caused by prolonged ischaemia. Patients with symptoms of ACS, abnormal biomarker concentration and with or without ST elevation, should have coronary angiography performed as soon as possible to identify and treat coronary artery obstruction or closure. In 1-14% of patients, coronarography does not reveal angiographically significant changes in epicardial coronary arteries (>70% of stenosis, except for the left coronary artery trunk> 50%), which is referred to as MINOCA (myocardial infarction with nonobstructive coronary arteries).

Aim of the study

Evaluation of the prevalence of MINOCA in a group of 970 patients hospitalized in the Department of Cardiology of the Medical University of Lodz, who underwent coronary angiography within 7 months.

Evaluation of selected laboratory tests, coexisting diseases and previous cardiological history in the group of patients with MINOCA.

Material and method

Out of 970 patients admitted to the Department and Clinic of Cardiology of the Medical University, who had a coronary angiography performed within 7 months, 221 patients with acute coronary syndrome were chosen. Then the results of coronarography were analyzed and 16 patients with MINOCA were selected.

Results

From 16 patients with MINOCA, 11 were women and 5 were men. The average age was 65 years. NSTEMI infarction was found in 13 patients and STEMI infarction in 3 patients. The mean troponin output value was 0.407 ng/ml (+/- 0.211). The mean left ventricular ejection fraction evaluated on pre-interventional echocardiography was 44% (+/- 11.06), after the intervention was 46% (+/- 11.06). In 63% of the patients there were no obstruction in coronary arteries in coronarography. None of the patients showed any stenosis in the left coronary artery trunk. Stenosis below 50% was detected in 5 patients in the anterior descending branch, 2 in the circumflex branch and 1 in the right coronary artery. Mean BMI of patients was 26.74 (+/- 4.02). Among patients 4 obese and 7 overweight patients were observed. 12 from 16 patients had hypertension and 11 had elevated cholesterol level. Among the patients who had MINOCA, 5 had a history of heart failure in NYHA class III and 2 in NYHA class III.

Conclusions

The retrospective analysis shows that MINOCA represents 7.24% of myocardial infarctions.

Among patients with MINOCA the most frequent was NSTEMI infracture. MINOCA is more common in women, in patients with obesity and overweight and with hipertension.

Most commonly, coronarography showed no changes in the coronary arteries (62.5%). If hemodynamically insignificant stenosis were found, the most frequently artery involved was the descending branch of the left coronary artery. In such cases, it is advisable to do intravascular imaging (IVUS, OCT).

Blood Transfusion Impact on Mortality after Transcatheter Aortic Valve Implantation

Author(s): Patrycja Kroskowska, Kinga Klimczak Medical University of Lodz, Poland Presenting author: Patrycja Kroskowska Tutor(s): Radosław Zwoliński

Introduction

Transcatheter Aortic Valve Implantation (TAVI) is an interventional cardiology procedure involving a replacement of the aortic valve through the blood vessels with degenerate valve retaining. It is usually performed to treat intermediate risk patients with aortic stenosis. Due to the high vulnerability of TAVI patients and procedure related bleeding, blood transfusions are frequently required. However, increasing evidence suggests an adverse impact of blood transfusion on the outcomes of patients with cardiovascular diseases.

Aim of the study

To find out whether blood transfusion may be a significant factor for increased mortality rates in TAVI patients.

Material and methods

Participants consisted of patients with aortic stenosis who were qualified for TAVI by Heart Team based on their clinical evaluation and imaging tests. The procedures were done in the Central Clinical Hospital of the Medical University of Łódź between 2017 and 2019. 165 patients were included in the study (85 women and 80 men, mean age 77.9 ± 8.04 years, median EuroSCORE 3.5).

For analysis purposes, patients were divided into two groups, those who underwent a blood transfusion (Group 1, N=45) and those who did not (Group 2, N=120). All clinical data were collected retrospectively and tested for significant group differences using a chi-squared analysis.

Results

15 (9,09%) patients who qualified for this study did not survive one year (max. survival 303 days). Between patient groups a significant difference in mortality was demonstrated (OR = 3.49, p = .038, 95%CI [1.19—10.28]). In addition, there were 8 patients after transfusion and 9 without it who had complications after TAVI but statistical significance was not shown (p = .100) in this case.

Conclusions

Results show that participants who underwent a blood transfusion had a significantly higher one-year mortality rate. We suggest that approaches for preventing the need for blood transfusions, such as individually chosen antiplatelet or anticoagulant treatment, may help to decrease mortality after TAVI. Earlier research from other centres outline similar conclusion.

Comparison of performance and quality of life in patients with leadless and transvenous pacemaker

Author(s): Szymon Warwas, Wiktoria Kowalska Marta Jagosz, Bartosz Bichalski Medical University of Silesia, Poland Presenting author: Szymon Warwas Tutor(s): Ewa Jerzejczyk-Patej, Beata Średniawa

Introduction

Transvenous pacemakers (PMs) are associated with numerous complications related with leads and pulse generator. Leadless pacemakers (LPMs) are an answer to short- and long-term complications of PMs. LPM is smaller in size, there is no transvenous leads and pulse generator in subclavian region thus contributes to better cosmetic effects and could be associated with better quality of life (QoL). Little is known about QoL in patients with LPMs in comparison with subjects with transvenous PMs.

The aim of our study was to compare performance and QoL of patients with Micra LPMs and patients with traditional PMs.

Materials and Methods

Data of consecutive 21 patients who have had Micra Transcatheter Pacing System implanted between January 2016 and October 2017 were analyzed. Each LPM recipient was matched with a counterpart who received a traditional PM between January 2016 and October 2017, according to their age, sex and indication for implantation. QoL was assessed using 36-Item Short Form Health Survey (SF-36) and Minnesota Living With Heart Failure Questionnaire (MLHFQ), at least 12 months after device implantation. Pacemakers were controlled 1 month, 6 months, 1 year, 2 years and 3 years after implantation at scheduled appointments.

Results

Median radiation dose (22 vs 64 mGy, P \leq 0.001), hospitalization time (1 vs 7 days, P \leq 0.001) and time from implantation to discharge (1 vs 3.25 days, P \leq 0.001) were significantly shorter in the group of classical PMs vs LPMs. The incidence of short- and long-term complications did not differ between LPM and PM group but were different: pseudoaneurysm of right femoral artery, and pericardial effusion in Micra group, and fracture of the right ventricle lead and replacement during the next procedure and infective endocarditis in transvenous PM group. The results of SF-36 and MLHFQ showed no significant differences between groups.

Factors that correlated with poorer QoL were: age (p=0,006), pacing percentage (p=0,01), presence of the arterial hypertension (HA) (p=0,02), atrial fibrillation (AF) (p=0,01), New York Heart Association Functional Classification (NYHA) class III or IV (p=0,03) and other cardiosurgery (p=0,03).

Conclusions

QoL does not differ significantly between group of patients with classical and leadless pacemakers. Factors that correlated with poorer QoL were age, pacing percentage, presence of HA, AF, higher NYHA class and previous cardiac surgery.

Differences between radial, brachial and femoral approaches in respect to complications after an invasive coronary procedures

Author(s): Wojciech Koziołek, Jan Roczniak Marcin Piechocki Jagiellonian University Medical College, Poland Presenting author: Wojciech Koziołek Tutor(s): Tomasz Tokarek, Dariusz Dudek

Introduction

The radial approach (RA) is nowadays the most commonly used one and is described as the safest. However, depending on clinical situation, brachial (BA) and femoral approaches (FA) are also used. Sometimes, a failure during conducting the intervention or anatomical variation force the operator to change the access. Thus, it is important to evaluate the rate of periprocedural complications related to all available access sites.

Aim

To evaluate safety and rate of periprocedural complications associated with RA, FA and BA. Methodology

The study group consisted of 120 patients who underwent percutaneous coronary interventions. Patients were collected retrospectively from 2013-2019. Study was provided with ethical principles for clinical research based on the Declaration of Helsinki. Standard descriptive statistics were used in the analysis. The level of statistical significance was set at $P \le 0.05$. All analyses were carried out with the software StatSoft, Inc. STATISTICA (data analysis software system), version 13.

Results

The average patient's age was 69 ± 10.6 years, most of them were male (63%). The most common reason for the procedure via all approaches was stable angina (RA vs FA vs BA: 42.31% vs 35.71% vs 37.5%, p = 0.8). There were no differences in the amount of radiation dose depending on access, while the highest volume of contrast was given during FA procedures (RA vs FA vs BA: 156.6 ± 100.2 vs 209.2 ± 82.8 vs 160 ± 52.3 [ml], p = 0.02). Initial access site was the most frequently changed in RA group (RA vs FA vs BA: 23% vs 18% vs 0%, p = 0.004). There was no differences in local complications at puncture site between groups (p=0.1) including major bleeding from the puncture site (RA vs FA vs BA: 0% vs 7.48% vs 2.63%, p = 0.1). Furthermore, there was no difference in periprocedural complications, however patients undergoing procedure via FA were associated with higher rate of blood transfusions (RA vs FA vs BA: 0% vs 10.71% vs 0%, p=0.01).

Conclusions

No differences in local complications after procedure were observed between groups. Femoral access was associated with the highest risk of bleeding requiring blood transfusion

Case study: Internal Medicine

Coordinators: Maria Wołyniak, Oliwia Kwaśniewska,

Jury:

dr n. med. Anna Masajtis - Zagajewska, dr n. med. Daniel Śliż, prof. dr hab. n. med. Jarosław Drożdż, dr hab. n. med. Ilona Kurnatowska, lek. Anna Zawiasa-Bryszewska, dr hab. n. med. Piotr Bienias, prof. dr hab. n. med. Joanna Domagała - Kulawik,

Inherited Thrombophilia As Hidden Enemy In A Case Of Ischemic Stroke

Author(s): Hadil Seh, Richard Darh-Norh Grigore T.Popa University of Medicine and Pharmacy Iasi , Romania Presenting author: Hadil Omar Seh Tutor(s): Alina Sacarescu

Introduction Ischemic stroke is characterized by a sudden loss of blood supply in an area of the brain resulting in a corresponding neurologic impairment. Atherosclerosis and cardio-embolic events are considered common causes, while the significance and management of thrombophilia in case of ischemic stroke remains controversial.

Case presentation A 59 year-old male patient presented to the hospital with confusion, aphasia and right side hemiplegia. A CT scan was immediately performed and demonstrated a hypo dense area on the left occipital lobe which was suggestive for ischemic stroke in the territory of the left posterior cerebral artery. On inquiry, no risk factors such as hypertension and dyslipidemia were found. His past medical history was only significant for deep vein thrombosis on the right calf treated with anticoagulants. Family history showed no predisposing factors for stroke. Neurological clinical examination, two weeks from the onset revealed severe mixed aphasia, apraxia, right hemiplegia with MRC of 0/5 of the right upper limb and $\pm 2/5$ of the right lower limb, right limbs slightly hypertonic with hyper-reflexia besides to mild atrophy in the distal part, indifferent plantar reflex in addition to central facial palsy on the right side. A second CT was performed demonstrating a new hypo dense area on the left frontotemporoparietal region which was suggestive of sub-acute ischemic stroke on the territory of the left middle cerebral artery and showed correlation between the clinical picture and the cerebral lesion. Cardiovascular evaluation was done by performing an EKG which did not reveal any abnormalities. 24 hour Holter monitor showed rate-dependent left bundle branch block that appeared when his heart rate was more than 70bpm. Echocardiography was normal with very small plaques on the aorta. Doppler ultrasonography of the cervical vessels was normal. Hematology was consulted with recommendations of hereditary thrombophilia screening which revealed a positive factor V Leiden mutation, protein S deficiency in addition to homozygous MTHFR- A1298C mutation. The patient was discharged with subcutaneous anticoagulation and neurotrophic medications. After one month of treatment he presented to the hospital for neurological re-assessment and rehabilitation. The patient was more hypertonic with positive Babinski sign and moderate atrophy on the right. Muscle strength improved with 1/5 on the right upper limb and +3/5 on the right lower limb and he started to take few steps by himself. The medical decision was to switch to permanent oral anticoagulation with dabigatran.

Conclusion In patients with ischemic stroke and normal results on the cardiovascular assessment, further investigations should be conducted, including inherited thrombophilia screening. This is important for determining the etiology of the stroke, but also for secondary prevention management, which remains controversial and mostly depends on the doctor's medical experience.

Simultaneous occurrence of parathyroid adenoma, hyperparathyroidism and gastric neuroendocrine tumor (gNET) with the MEN-1 syndrome excluded - case report

Author(s): Julia Skwara Medical University of Warsaw, Poland Presenting author: Julia Skwara Tutor(s): Agnieszka Żyłka

Introduction:

Gastric neuroendocrine tumors (gNETs) are rare neoplasms (1% of all gastric tumors) derived from the enterochromaffin-like cells (ECL cells) of the gastric mucosa. They are classified in four different clinical types. gNETs may be related to multiple endocrine neoplasia type 1 (MEN-1) syndrome - an inherited group of disorders that affect the endocrine system through development of neoplastic lesions. Hyperparathyroidism is present in 90% of patients diagnosed with MEN-1 syndrome. Clinically, the diagnosis of the syndrome is defined by the presence of 2 or more typical for MEN-1 tumors. However, the diagnosis should be confirmed via genetic testing, because a true MEN-1 syndrome is caused by congenital mutations in MEN1 genes.

Case report:

In 2008, a 42-year old female has undergone upper gastrointestinal endoscopy due to the non-cardiac chest pain and has been diagnosed with gastric neuroendocrine tumor (gNET G1) type I which was associated with autoimmune chronic atrophic gastritis and the presence of anti-parietal cell antibodies (APCA). This resulted in vitamin B12 deficiency, hypergastrinemia and dyspepsia. The patient also suffered from iron deficiency which altogether lead to severe anemia. 2 years later the patient was diagnosed with hyperparathyroidism (PTH 263pg/mL) due to the persistent hypercalcemia in the blood serum (Ca 2+ 2,93 mmol/l). The parathyroid scintigraphy Tc-99m revealed the potentially malignant, atypical tumor in the lower left parathyroid. As a result, the patient underwent parathyroidectomy. Given the imaging findings, history, and presenting symptoms, the MEN-1 syndrome has been suspected. However, the genetic analysis of the patient's blood sample did not confirm the presence of MEN1 gene mutation, which excludes the MEN-1 syndrome. The patient remains under endocrinological and gastroenterological long-term management.

Conclusions:

It is important to remember about the rare occurrence of gastric neuroendocrine tumors and that they require thorough diagnosis and tailored management. The presence of other endocrine pathologies, such as parathyroid adenoma and hyperparathyroidism, may strongly suggest a diagnosis of a genetic syndrome, which, as this patient demonstrated, is not always a case. In conclusion, it is crucial to use modern diagnostic methods, such as genetic testing, to verify the clinical presentation of a disease, which can, in turn, confirm or deny proposed diagnosis and determine the future course of treatment.

Thrombotic thrombocytopenic purpura triggered by Yersinia enterocolitica sepsis in a 25-year-old patient

Author(s): Greta Kygaitė Vilnius University, Lithuania Presenting author: Greta Kygaitė Tutor(s): Lukas Balciunas

Introduction

Thrombotic thrombocytopenic purpura (TTP) is a thrombotic microangiopathy with high mortality rate if left untreated. It can be triggered by bacterial infections, medications, autoimmune diseases and is usually diagnosed based on symptoms, blood tests and antibodies against ADAMTS13.

Case report

A 25-year-old male presented with fever, muscle pain, acute kidney failure and thrombocytopenia with a total SOFA score 7. In a two day period the patient went into septic shock, developed acute respiratory distress syndrome, acute liver failure with a total SOFA score 15. Using immunological testing Yersinia enterocolitica was isolated from blood serum with unknown antimicrobial resistance. The site of infection was not found. The patient tested positive for antibodies against ADAMTS13 and in regard to the previous tests thrombotic thrombocytopenic purpura diagnosis was made. The patient recovered following meropenem, ciprofloxacin, methylprednisolone and plasmapheresis treatment.

Conclusions

When dealing with atypical course of disease and patient profile, rare pathogens and diseases should be taken into consideration. Our report highlights the potential of atypical bacterial infection to induce TTP which should always be taken into consideration due to the high fatality associated with untimely detection of the disease.

CERVICAL CARCINOMA IN PREGNANCY: Case Report

Author(s): Justyna Fercho, Jacek Rutkowski Piotr Winczura Medical University of Gdańsk, Poland Presenting author: Justyna Fercho Tutor(s): Jacek Rutkowski

With delayed childbearing and increased rates of malignancies with age, the diagnosis of cancer during pregnancy is on the rise. Cancer affects from 0.05 to 0.1 % of pregnancies.

The pathophysiology of cancer during pregnancy is poorly evaluated. However hormonal changes, immunological suppression, enhanced vascularization and increased patency of blood vessels are involved. In case of advanced disease without the opportunity for safety local treatment (like surgery) disease progression may have the fatal outcome. If the treatment cannot be delayed until after delivery, and if termination is not desired, chemotherapy should be considered. The teratogenicity of any drugs depends on the timing of exposure, the dose, and the characteristics affecting placental transfer.

Using the chemotherapy during the first trimester increases the risk of spontaneus abortion, fetal death and major malformations. Exposure during the second and third trimesters increases the risk of intrauterine growth restriction (IUGR) and low birthweigth. Fetal growth can be also affected by maternal nutritional deficiencies, caused by the tumour or by chemotheraphy-induced anorexia. C hemotherapy should be completed 3 weeks before the planned delivery to reduce the risk of chemotherapy related complications in the perinatal period. Consequently it is important to determine what treatments are safe for both mother and the developing fetus during pregnancy.

We herein describe the case of 34-year-old female patient admitted to the hospital after the episode of vaginal bleeding in 19 th week of pregnancy and suspicion of cervical cancer. Patient had the routine cytology in 14 th week of pregnancy with negative result. Histopathological analysis of samples obtained from uterine cervix revealed the invasive squamous cell cancer. Patient had received a three cycles of paclitaxel and cisplatin based chemotherapy during pregnancy (First cycle in 24 th week of pregnancy) with good tolerance. An elective cesarean delivery was carried out at 34 weeks. The patient gave birth to a healthy daughter. There were no complications during delivery and confinement period. The postpartum was histopathologically examined no cancer infiltration was found. MRI performed after chemiotherapy revealed features of partial regression. The PET-CT scan confirmed the absence of lymph nodes involvement as well as distant metastases. During confinement period patient received the standard radical treatment for locally advanced cervical cancer (stage IIB - FIGO system) which was the IMRT teleradiotherapy with concomitant chemotherapy and subsequent HDR brachytherapy. At the end of teleradiotherapy patient had purulent vaginal discharge and received an antibiotic according to culture from the cervical canal.

Patient received the full scheduled local treatment with good tolerance and complete local response (based on the gynecological examination). Now undergoing the careful follow up.

Severe course of the chronic myeloid leukemia (CML)

Author(s): Dagmara Spętana Medical University of Lodz, Poland Presenting author: Dagmara Spętana Tutor(s): Piotr Stelmach

Introduction

Chronic myeloid leukemia is a rare disease, recognized as myeloproliferative cancer, the essence of which is the clonal, uncontrolled growth of a cancerous altered multi-potential stem cell in the bone marrow. The cause of the disease may be ionizing radiation, as a result of which there is a genetic mutation and the formation of the Philadelphia chromosome-translocation between 22 and 9 pair of chromosomes. This leads to the formation of the BCR-ABL tyrosine kinase protein fusion. Almost half of the patients have a random diagnosis based on morphology. The natural course of the disease has a three-phase character from the chronic phase to the acceleration phase and then to the blast crisis. A 2-phase waveform is a rapid waveform to the blast crisis phase. The occurrence of the blast crisis is characterized by poor prognosis.

Case report

A 46-year-old man who was healthy until now and did not report any symptoms came to the clinic in 2013. The results of blood laboratory tests showed a number of irregularities. The patient's clinical picture suggested the onset of chronic myeloid leukemia. Imatinib treatment was initiated. A year later, there was a worsening of the general condition and rapid weight loss. Results of blood tests at admission showed leukocytosis with anemia and thrombocytopenia. A lymphoblastic crisis has been reported. In addition, lumbar puncture was performed, which showed CNS involvement. After a month of treatment, a control bone marrow examination was performed - clump-free material, without blasts. After 2 years of illness, the man was qualified for allotransplantation of hematopoietic cells from an unrelated donor. Less than a year later, MRI of the head and lumbar puncture were performed due to headaches. Relapse detected. Intrathecal cytostatics treatment was implemented. In a short time, the patient returned to the doctor with distorted vision of the left eye. Due to frequent episodes of CNS infiltration, the patient underwent systemic chemotherapy according to the scheme. Brain radiotherapy with the spinal cord was implemented. After a year, due to disease progression despite the treatment, it was decided to implement ponatinib. The patient responded positively to the recently implemented treatment. He regularly reports for control examinations to the clinic, most recently in December 2019. Peripheral blood count without any deviation, the patient does not report symptoms of the disease, continues treatment with ponatinib in good general condition.

Conclusions

Chronic myeloid leukemia is a disease that is characterized by a fairly slow and mild course, unlike acute leukemia. In a few cases, the chronic course becomes rapidly progressive. Diagnosis of advanced disease necessitates the use of aggressive and aggravating therapy, which has enabled the inhibition of disease progression and the resolution of symptoms.

Rare complication of acute alcoholic pancreatitis - a case report

Author(s): Michalina Wieczorek, Miłosz Caban Medical University of Lodz, Poland Presenting author: Michalina Wieczorek Tutor(s): Ewa Małecka-Panas, Adam Fabisiak

Introduction

Acute alcoholic pancreatitis (AAP) is one of the most frequent gastrointestinal causes of hospital admission. Severe abdominal pain, vomiting, nausea are the main symptoms of AAP. However, manifestation from other organs may occur in the course of this disease. Purtscher 's-like retinopathy is the extremely rare complication of AAP. It is characterized by sudden visual loss and typical changes in fundus examination what is caused by a vasoocclusive microvasculopathy. So far, several such cases have been reported in the literature and to our knowledge, our case report is the first one of this retinopathy associated with AAP in Poland.

Case report

A 32-year old man with a history of alcohol abuse was admitted to the Department of Digestive Tract Diseases in Norbert Barlicki Memorial University Hospital with vomiting and severe epigastric pain radiating to the back. Blood tests showed an elevated white blood cells count $(13.9~{\rm G/L})$, liver enzymes (aspartate aminotransferase

- 152 units per liter (U/L), alanine aminotransferase - 108 U/L), serum pancreatic enzymes (lipase - 2060 U/L, amylase - 314 U/L) and ethanol (0.76%). The AAP was diagnosed and analgesic treatment with intensive fluid therapy

was introduced. On day following the admission, the patient developed sudden bilateral visual impairment. On the ocular examination, the visual acuities of both eyes were 5/40 using Snellen 's chart. The slit-lamp examination showed an unremarkable anterior segment. After adequate pupillary dilatation, fundus examination revealed the presence of peripapillary cotton-wool spots in both eyes. Moreover, optical coherence tomography presented bilateral macular edema. Based on these results the Purtscher 's-like retinopathy was diagnosed and the treatment with nepafenac in eye drops, intravenous hydrocortisone and oral pentoxifylline was started. After two days, the visual acuities of both eyes were 8/40 and macular edemas were diminished. The patient is still under observation in our Department.

Conclusions

This case emphasizes the importance of ophthalmological consultation in the diagnosis of this rare entity. The ocular fundus examination should be done in patients with

acute pancreatitis, with blurred vision.

Cerebral venous sinus thrombosis in pregnancy

Author(s): Łucja Zaborowska, Aleksandra Urban Wojtek Koziołek Jagiellonian University Collegium Medicum, Poland Presenting author: Łucja Zaborowska Tutor(s): Magdalena Nowak

Introduction

Cerebral venous sinus thrombosis (CVST) is an infrequent type of stroke, caused by a clot forming in one of the cerebral sinuses and blockage in a blood drainage. Despite the fact that venous thromboembolism affects 0,1% of the population, CVST is a rare disease that occurs in 5 people in 1 million annually and is mortal for 3% of cases. Risk factors associated to CVST include pregnancy, surgery, lumbar puncture or inherited thrombophilia.

Case report

The patient was a 33-year-old woman gravida 3, para 2, admitted to the Perinatology Clinic of Jagiellonian University in Kraków at 39+5 weeks of gestation in order to perform a C-section. On admission there were no abnormalities. After one day of hospitalisation the patient was qualified for a cesarean section with subarachnoid anesthesia. During the surgery there were signs of high spinal anesthesia with suspicion of respiratory insufficiency. The patient was intubated and transferred to the intensive care unit. After a few hours the patient was extubated and transferred to the maternity ward, from where she was discharged after 3 days. 3 days later the patient was readmitted to the hospital by her GP because of elevated D-dimers level with accompanying headache, back pain and tingling sensation of her right thigh. Performed CT revealed CVST - blood clots were present in the left transverse, sigmoid sinus and the left internal jugular vein. The patient was then transferred to the Neurology Clinic where alexia, aphasia and cerebral venous infarction of temporal and parietal lobes were diagnosed. The patient was successfully treated with heparin and painkillers. Discharged home in a good condition, with prestetention of dyslexia. During 4 years of observation no coagulation defects were detected.

Conclusions

CVST is a severe disease that can result in long-term neurological effects. The disease poses a certain challenge in diagnosis, especially in patients with nonspecific symptoms such as headaches and minimal neurological deficits. As a potential group at risk, all women in postpartum should be carefully screened for potential development of CVST symptoms.

Intermittent complete AV block during pregnancy followed by temporary pacing: a case report

Author(s): Auguste Butkeviciute Vilnius University, Lithuania Presenting author: Auguste Butkeviciute Tutor(s): Pranas Serpytis

Introduction

Bradyarrhythmias, including atrioventricular conduction blocks are rare in woman of child-bearing age, with prevalence of 1/20000. The natural history and outcome of pregnancy in patients presenting with atrioventricular block are unknown with only a limited number of case reports published. As pregnancy and complete AV block is a rare association, there are no established guidelines regarding clinical management of this condition.

Case report

A 40 years old woman, 37 weeks pregnant arrived at the hospital with fatigue, dizziness, and a heart rate of 40 beats/minute, with no episode of syncopal attack. In her childhood, she was diagnosed with a first degree atrioventricular block.

During the physical examination, her heart rate was regular at 50 beats/minute, with the rest of examination being unremarkable. An ECG was performed, and a third type atrioventricular block was observed with the patient's heart rate at 47 beats/minute. The fetus was in good condition, and the nonstress test was reactive. As the patient had a satisfactory tolerance of the existing heart rate, sufficient fetal blood flow, there was no indication for a temporary pacemaker at the time.

Afterwards, the patient was monitored and treated in the Cardiological ICU. Following the introduction of intermittent third degree AV block, a multidisciplinary team decided to implant a temporary pacemaker, transfer the patient to the obstetric ward, and induce labour. The following day, a temporary stimulation electrode was applied, and the patient 's pulse rate was 80 beats/minute. Labour was induced by the introduction of a cervical mechanical extender, synthetic prostaglandins, and amniotomy. A healthy female newborn with a APGAR score of 9/10 was delivered naturally.

After labour, the patient was transferred to Cardiological ICU for observation and treatment. The next day she was in stable condition, and was transferred to the obstetrics department. 48-hour ECG monitoring was performed, there were no episodes of AV block, therefore it was decided to remove the temporary stimulation electrode. After the removal of the temporary pacemaker, a cardiac ultrasound was performed. It showed a left ventricle ejection fraction of >55%, and functional mild tricuspid regurgitation. The patient was discharged from the hospital in a stable condition, and a smooth postpartum period.

Conclusions

Untreated atrioventricular block in pregnancy tends to be progressive. If pregnant women with AV block develop symptomatic bradycardia, including syncope and presyncope at or near term, temporary pacing followed by labor induction at the earliest possible time is recommended.

A rare cause of epistaxis - Osler-Weber-Rendu disease

Author(s): George Chirita

"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Presenting author: George Chirita

Tutor(s): Otilia Motoi

Introduction: Rendu-Osler disease is a rare genetic disease, with suggestive clinical manifestations: recurrent epistaxis, telangiectasias and visceral vascular abnormalities.

Case description: A 40-year-old patient presents to the emergency room for asthenia, epistaxis, with one year 's onset, dyspnea and headache. Patient's history revealed that her mother and aunt died from a liver disease and the two also had epistaxis. At the physical examination, there were noticed: pallor, discrete edemas, tachycardia, systolic murmur. Biologically, there was an iron deficiency anemia. The ENT examination revealed a vegetative nasal septum formation, which was biopsied. Abdominal ultrasound revealed a hypoecogenic formation, in the proximity of the pancreas tail, for which angioCT was performed, describing several splenic aneurysms and a particular aspect of hepatic vascularization - suggestive of intrahepatic arteriovenous malformations. For the differential diagnostis: cirrhosis, vasculitis, bacterial endocarditis or connective tissue disease were considered.

Resumption of the clinical examination allowed the observation of a small telangiectasia of the upper lip. Based on the Curacao criteria, the diagnosis was established (3 out of 4: epistaxis, telangiectasia and a positive family history of a relative of the first degree). Further investigations were made in order to detect other possible abnormalities. Signs of pulmonary hypertension and heart failure were identified, complications secondary to the liver arteriovenous malformations.

The patient received treatment with iron, initially parenterally, later orally. Selective embolization of the largest of the splenic artery aneurysms was performed, taking into account the risk of rupture. Iron therapy was maintained as a primary treatment. The patient is monitored biannually for the liver and heart disease. Screening for the family members was recommended.

Conclusions: Rendu-Osler disease is an incurable disease, but with a normal life expectancy if the complications of the disease are diagnosed and treated early.

THE SEVERITY OF RHABDOMYOSARCOMA, CASE REPORT

Author(s): Nguyen Do To Uyen, Bocharova Tetiana Gulmurzoev Khusniddin Kharkiv National Medical University, Ukraine Presenting author: Nguyen Do To Uyen Tutor(s): Irina Sorokina

Introduction: Rhabdomyosarcoma is a rare malignant tumor of striated muscles. This type of tumor is characterized by a high level of polymorphism. It mostly develops in children at an early age but it does also occur in adults. The common places for this tumor to grow are bladder, uterus, head and neck area.

Case report: This case report is about a 38-year-old patient who has been diagnosed clinically with neoplasm of ovaries and metastasis, secondary hypertrophy myocardiopathy, cardiac insufficiency, pulmonary hypertension, hydropericardium and ascites. It was believed that the patient died because of an acute cardiovascular insufficiency at the time of this clinical diagnosis. After her death, we conducted an autopsy test and found out some macroscopic and microscopic features.

Macroscopic results: There was an accumulation of fluid in body cavities such as in pleural cavity - 300ml, in pericardium - 300 ml and in abdomen - 600ml. Size of the heart was 17x16x11cm. Mass of the heart was 750g. In the heart, there were a lot of hard, whitish nodes without clear borders and they spread to epicardium. The thickness of left ventricle was from 1 to 3cm. The left ovary was full of cysts which had the size of 6x5x4.5cm, thick capsules and were filled with a clear, yellowish fluid.

Microscopic results: Within myocardium and epicardium, there was a rhabdomyosarcoma with bundled and rounded cells. The patient also had an acute cardiovascular insufficiency which caused the accumulation of hemosiderin in internal organs leading to the condition of nutmeg liver, brown induration of spleen and kidneys. In addition, in her ovary, there was a simple benign cystoadenoma.

We concluded the main diagnosis that the patient had a rhabdomyosarcoma consisting of a lot of bundled and rounded cells in the patient's heart. In addition, the tumor spread to the muscular layer of the entire myocardium and even penetrated into epicardium. The patient had developed some severe complication like a chronic cardiovascular insufficiency leading to the apperance of nutmeg liver, brown induration of spleen and kidneys. She also had hydropericardium, ascites and hydrothorax. Moreover, a mucous cystoadenoma of the left ovary and leiomyoma of uterus that was reported to be her background disease was present but was not the main cause of the patient's tanatogenesis in general.

Conclusion: As I stated before, rhabdomyosarcoma is a very rare malignant tumor that is really difficult to be diagnosed. This case is designed to demonstrate the severity of rhabdomyosarcoma which develops in the patient's heart and effects other vital internal organs. It can cause an acute cardiac insufficiency and dysfunctions of liver, kidneys and spleen. As the result, this leads to the death of the patient.

The multidisciplinary approach to the uncommon cause of cerebrospinal fluid rhinorrhoea.

Author(s): Magdalena Ostrowska, Adam Ostrowski Maciej Wróbel Nicolaus Copernicus University in Torun, Poland Ludwik Rydygier Collegium Medicum in Bydgoszcz, Poland Presenting author: Magdalena Ostrowska Tutor(s): Henryk Kaźmierczak

The most common cause of cerebrospinal fluid (CSF) rhinorrhoea is a fracture of the skull base with a rupture of dura mater due to an accident or an introgenic injury. This refers to over 90% of cases. Other possibilities that can lead to CSF leakage are primary cancers of the nasal cavity, paranasal sinuses or nasopharynx and infrequently distant metastases. Although prostate cancer spreads to bones, cranial metastases to paranasal sinuses are extremely rare.

An 83-year old patient was admitted to the Otolaryngology Department with persistent clear, watery nasal discharge, pain localized in the forehead and base of the nose. He had never been treated for any ENT diseases, he denied allergies. He had no history of previous injuries or surgeries of the head or neck region. Advanced, poorly differentiated adenocarcinoma of the prostate, Gleason 9 (4+5) was reported but since then without any symptoms. On admission, the metastases to the skull base were suspected. Performed biochemical examinations suggested that the nasal discharge was CSF. To determine the localization of leakage, computed tomography of head and neck and magnetic resonance imaging were done. The examinations confirmed absence in part of the clivus, the vault of the pharynx and wall of the sphenoid sinus. Conservative treatment was introduced. After clinical improvement, the patient was discharged on the 10th day without CSF leakage.

In summary, the CSF rhinorrhoea turned out to be the first symptom of metastases of prostate cancer. The multidisciplinary team is needed in the diagnostic process and treatment strategy in cases that are part of different fields of medicine. Poorly differentiated cancer has a higher potential to metastasize to untypical location. Even though distant metastases to the sinuses are rare, we should always take it into consideration in patients with advanced and disseminated diseases with new orbital or nasal symptoms.

The importance of DRE in patients with aggressive, poorly differentiated prostate cancer - case study

Author(s): Jędrzej Borowczak Collegium Medicum im. Ludwika Rydygiera w Bydgoszczy, Poland Uniwersytetu Mikołaja Kopernika w Toruniu, Poland Presenting author: Jędrzej Borowczak Tutor(s): Adam Ostrowski

Introduction:

Prostate cancer (PC) is the second most common malignancy in men worldwide.

Its incidence and mortality

increase with ag e, reaching nearly 60% and 55% in men over the age of 65 adequately.

The 5-year survival rate slightly varies worldwide and is around 98% in the USA.

PS A is an androgen-regulated serine protease produced by both prostate epithelial cells and prostate cancer, commonly used as a marker in early-stage screening and post-surgical monitoring of PC. Digital rectal examination (DRE) is often practiced as a main tool in PC screening, but its routine usage is still questioned.

Case study:

A 75 years old male patient visited the Urological Outpatient Clinic on 04.10.17. He was previously diagnosed due to a rapid weight loss, yet he wanted to cancel the appointment because of the initial PSA level of 0,45 ng/ml. He changed his mind under his wife's persuasion. Despite the low PSA level the urologist performed DRE and diagnosed highly suspicious palpable mass [DRE (+++)]. He had an episode of deep vein thrombosis (DVT) in July 2017. On 25 September a biopsy and scintigraphy confirmed prostate cancer with GS 8 score and the lack of metastasis. CT scan of the abdomen and pelvis showed the enlargement of deep inguinal lymph nodes. On 15 November the hormone therapy was induced and after consultation with the head of the clinic a decision to perform a prostatectomy with lymphadenectomy was made. On 30 November an urgent USG was done and DVT of the left lower limb was diagnosed. Meanwhile, the histopathology result showed multiple metastases in removed lymph nodes and revealed a prostate adenocarcinoma of a higher grade than the previous biopsy exposed, GS 9, pT3b N1 Mx. The patient has been disqualified from further chemotherapy due to poor clinical condition and died in July 2018, 9 months after diagnosis.

Discussion:

Actual guidelines for PC recommends the use of both the PSA test and DRE for patients requesting PC screening. Low level of PSA in PC with GS 9-10 might be a sign of an aggressive, poorly differentiated or anaplastic low-PSA producing tumors and PSA test alone can lead to their omission, therefore performing DRE should be considered as a complementary examination in PC screening. High PSA level is not specific to PC and can be caused by prostatitis, BPH, inflammation or ejaculation. Due to the proximity of iliac blood vessels, pelvis tumors are prone to cause DVT in up to 10% of patients. Whatsoever, regional lymph node metastases were confirmed as a strong risk factor for venous thromboembolism and unexplained DVT, making them a potential sign of underlying malignancy.

Cryoglobulinemia and follicular lymphoma as an extrahepatic manifestation of HCV infection

Author(s): Ewelina Truszkowska, Cyntia Szymańska Uniwersytet Medyczny im. Karola Marcinkowskiego w Poznaniu, Poland Presenting author: Ewelina Truszkowska Tutor(s): Iwona Mozer-Lisewska

Introduction

HCV, commonly known as a hepatocellular cancer risk factor, is also connected with B-cell non Hodgkin lymphomas. Chronic antigen stimulation by HCV and its lymphotropism contribute to B-lymphocyte expansion. Replication of HCV genome in these cells activates anti apoptotic gene BCl2 and suppresses p53 protein, therefore apoptosis is limited. When it comes to follicular lymphoma, proliferation and transformation of IgH-BCL2 clones are increased by inflammatory cytokines.

Moreover, HCV infection has many extrahepatic manifestations, such as mixed cryoglobulinemia, type I membranoproliferative glomerulonephritis (MPGN) as well as Sjögren's syndrome. Cryoglobulinemia is the presence of abnormal immunoglobulins (Igs) in the serum. Their characteristic feature is that they precipitate at low temperatures and dissolve again upon warming. Symptoms include purpura, necrotic ulcers, Raynaud syndrome, polyneuropathy and membranoproliferative glomerulonephritis.

Case report

57-year old female patient was admitted to the hospital for diagnostics because of fatigue, redness of the face and conjunctiva, lymphadenopathy and Raynaud syndrome. She was infected by HCV, genotype 1b, and has not been previously treated with antiviral drugs. Blood tests were difficult to perform because of the need to maintain the temperature of 37 C. The presence of cryoglobulins in the patient's blood confirmed the suspicion of cryoglobulinemia. Cervical lymph node was removed for histopathological examination, which showed follicular lymphoma G-3-A, BCL2+. Antiviral treatment (ledipasvir/sofosbuvir) was initiated and the patient was transferred to the hematology clinic.

Conclusions

HCV affects not only the development of chronic hepatitis, but also systemic conditions such as cryoglobulinemia. Its association with non-Hodgkin's lymphoma is still under investigation.

An ambiguous cause of dysphagia

Author(s): Patrycja Szałwińska, Agnieszka Świątek Medical University of Lodz, Poland Presenting author: Patrycja Szałwińska Tutor(s): Ewa Małecka-Panas, Adam Fabisiak

Introduction: Crohn's disease (CD) is a type of inflammatory bowel disease (IBD) with multifactorial etiology which can affect any part of the gastrointestinal tract. Typically, the inflammation in CD may encompass all layers of GI tract walls, which may result in fibrosis, stenosis or fistulas.

CD is a chronic and disabling disease - that is why this disorder is still a subject of many investigations in medical and scientific world. The involvement of upper GI tract is estimated at approximately 11% of patients at the diagnosis.

Case report: A 70-year-old woman was admitted to the Norbert Barlicki University Hospital No. 1 in Lodz with the signs of dysphagia. The patient was reporting difficulties in swallowing solid foods with no other unpleasant symptoms. Before the admission, she underwent an attempt of gastroscopy in outpatient clinic, which was unsuccessful due to the extensive vomiting after the endoscope insertion despite the 12 hours-long fasting. The patient had a history of mastectomy of right breast due to the adenocarcinoma (2008), history of gastrointestinal perforation with inflammatory tumor of ascending colon followed with a right hemicolectomy with ileostomy formation (in 2018). Interestingly, on her usual oncological surveillance, the suspicion of achalasia was raised in high-resolution computed tomography. On admission laboratory blood tests were as follows: mild leukocytosis (WBC: 10,9 G/L), dyselectrolytemia (sodium: 132 mmol/L), kidney failure (creatinine: 1,86 mg/dL), elevated level of C-reactive protein (CRP) (42,5 mg/L).

During the hospitalization the gastroscopy was performed which revealed linear fibrin-covered ulcerations with cobbled mucous membrane in esophagus from the upper esophageal sphincter to the cardia. Cardiac mucous membrane was swollen, but allowed the endoscope insertion to the stomach. Hemorrhagic erosions covered with hematin were found in the gastric fundus,

cardial area, gastric body and in duodenal ampulla. Gastric antral mucosa was also cobbled. No changes in further part of duodenum were observed. Samples from esophagus, cardia and stomach were taken for histopathological assessment. Urease test was negative.

According to patient's symptoms, endoscopic findings and past history the diagnosis of CD was made. The course of intravenous glucocorticoids was administered and the symptoms relieved; the patient was able to take solid foods. Unfortunately, the patient did not agree for further examination and after improvement of the general condition was discharged from the hospital on oral glucocorticoids in decreasing doses.

Conclusions: Presented case shows that although the upper GI is rarely affected by Crohn's disease, it should be considered as a potential differential diagnosis of dysphagia despite the lack of typical intestinal symptoms, such as abdominal pain or diarrhea.

Successful patent foramen ovale closure in patient with history of the device embolization

Author(s): Andrzej Wittczak Medical University of Lodz, Poland Presenting author: Andrzej Wittczak Tutor(s): Marek Maciejewski, Agata Bielecka-Dąbrowa

INTRODUCTION Patent foramen ovale (PFO) is a common abnormality, occurring in about 25% of the population. Its presence was found to be associated with paradoxical embolism and ischemic stroke. The percutaneous PFO closure is recommended for selected patients in the prevention of recurrent thromboembolic events. Although transcatheter closure of PFO is recognized as a safe procedure, potential complications, such as device embolization, do exist. CASE REPORT A 64-year old female with history of clinically diagnosed ischemic stroke and PFO was admitted to the Department of Cardiology and Congenital Diseases of Adults for qualification to the second PFO closure procedure. Patient had history of an unsuccessful procedure complicated with dislocation of the Figulla Flex II ASD 12mm Occluder to the descending aorta 5 years prior to the admission. The device was successfully removed percutaneously, but risk of paradoxical embolism remained. On admission patient was asymptomatic, however the transesophageal echocardiography (TEE) demonstrated large left-to-right and right-to-left shunts and atrial septal aneurysm (ASA). Due to the presence of anatomical high-risk factors of recurrent stroke patient was qualified to subsequent PFO closure. The Figulla Flex II ASD Occluder 21mm was successfully implanted with primarily adequate positioning of the occluder and no other complications. Control TEE performed after the procedure showed a successful device implantation with no residual shunt or pericardial effusion. Patient was admitted three months after the procedure in order to assess the effect of the closure. The transthoracic echocardiogram demonstrated a well-positioned device and no signs of leak- a proof of a long-term effectiveness of the PFO closure. CONCLUSIONS Major complications of PFO closure can occur in 1.2% of cases. Device embolization is very rare with incidence as low as 0.7%. For misplaced intravascular foreign bodies the endovascular retrieval is considered the therapy of choice. However sometimes a surgical retrieval of the dislodged device is necessary. The decision to retry the PFO closure has to be made after careful consideration of clinical indications and possible complications. To the best of our knowledge, this is the first case report of a second attempt to close PFO percutaneously in patient with history of the PFO occluder dislocation.

ANCA-associated vasculitis - is it still a diagnostic and therapeutic challenge?

Author(s): Karolina Barczak, Justyna Branewska Maria Burda University of Rzeszow, Poland Presenting author: Karolina Barczak Tutor(s): Bogdan Kolarz

Background: The aim of the study was to describe the rare case of vasculitis with the presence of ANCA antibodies in a 36-year-old woman.

ANCA associated vasculitis is a rare and heterogeneous group of diseases. It can occur at any age, but more often it affects adults and the elderly. In the course of the disease, the involvement of organs such as the lungs and kidneys is typical. It is usually manifested by progressive deterioration of renal function, which may lead to terminal renal failure. The clinical presentation is characterized by the occurrence of general, muscular-joint, neurological and skin symptoms.

The study analyzes the case of a patient who has developed the above disease entity.

Case report: The disease was manifested in the form of arthritis with tenderness of the muscles of the lower legs, increasing dizziness, disturbance of gait balance, lower limb parasthesia and skin lesions with morphology of vasculitis. Acute kidney damage occurred in the course of systemic disease. A kidney biopsy confirmed the features of scantimmune glomerulonephritis with the presence of crescents. Serological tests showed the presence of c-ANCA antibodies. Plasmapheresis with simultaneous administration of Solu-Medrol was used in the treatment. Then, intravenous immunoglobulins were started in parallel, initiating Endoxan therapy according to the EUVAS regimen. After completion of remission induction treatment, maintenance therapy with Azathioprine and then Mycophenolate Mofetil was introduced. Due to the ineffectiveness of the treatment, Rituximab was used. The therapy did not bring the expected results, therefore the patient is qualified for kidney transplantation.

Conclusions: The rarity and varied clinical course of ANCA-associated vasculitis mean that they are often overlooked in differential diagnosis in patients with symptoms from multiple organs and systems. Therefore, they constitute a significant diagnostic problem. It is important that the disease is detected as soon as possible and that appropriate treatment is started to prevent complications of the described disease entity.

A Case Of Erisypelothrix Rhusiopathiae Caused Bacteremia

Author(s): Justas Mezelis Vilnius University, Lithuania Presenting author: Justas Mezelis Tutor(s): Birute Zablockiene

Introduction: Erysipelothrix rhusiopathiae is a facultative anaerobic Gram-positive rod that is found all around the world. It is more common in veterinary medicine for causing infectious diseases to household animals, especially pigs. It is also known to persist in the exterior slime of fish. E. rhusiopathiae infection is usually an occupational zoonosis in humans and mostly causes a self-limiting cellulitis, also called erysipeloid. Other forms, such as generalized cutaneous form with blood negative culture and bacteremia, are much rarer. The latter is highly associated with potentially lethal infectious endocarditis, however, recent studies have started to question this fact.

Case report: A 53-year old female was admitted to Infectious disease department with erythemous lesions in face, back, abdomen, legs, arms, swollen II finger of the right hand, whole body pruritus, fever of 37,5 degrees, diarrhoea. Epidemiological anamnesis revealed that the patient is a cook and recently injured a finger with

a fishbone while cooking. She had blood pressure of 160/90 mmHg, heart rate 72 per minute, there was no lymphadenopathy. Laboratory results showed an elevated C-reactive protein and leukocytosis with neutrophyl predominance. A set of blood cultures was drawn resulting in detection of Erysipelothrix rhusiopathiae . Salmonellosis from stool culture was also diagnosed. The heart ultrasound was performed because E. rhusiopathiae bacteremia is traditionally highly associated with infectious endocarditis. No pathology was detected. The patient was treated with intravenous Ceftriaxone 2 g/day and was discharged in a good condition after 14 days. , The heart ultrasound was repeated after 2 weeks with no signs of infectious endocarditis.

Conclusions: Even though E. rhusiopathiae bacteremia is a rare infection, physicians must be aware of this zoonosis especially in cases of atypical infections for people who work with animals or food.

Paraneoplastic cerebellar degeneration - case report

Author(s): Martyna Jauniškytė, Unė Jokimaitytė Vilnius University, Lithuania Presenting author: Martyna Jauniškytė Tutor(s): Aleksandra Ekkert

Background: Paraneoplastic cerebellar degeneration (PCD) is a rare complication occurring in <1% of cancer (predominantly ovarian, uterine, breast) patients. The patients develop cerebellar and cognitive deficits resulting from tumour-induced autoimmunity against cerebellar antigens. The Anti-Yo antibody is detected most frequently and is associated with mostly poor outcomes.

Case report: A 64-year-old woman presented to the emergency department (ED) with vertigo in March 2019. Neurological evaluation was notable only for horizontal nystagmus, head CT showed leukoencephalopathic changes, the patient was admitted, diagnosed with undifferentiated vestibular syndrome, prescribed Betahistine and discharged home. Symptoms regressed over the next 4 months. In July the patient presented to ED with a 2-week history of diplopia, neurological examination revealed an abducens nerve paresis, head CT showed no ischemic changes and the patient was diagnosed with a posterior stroke. During next month neurological deficits were gradually increasing and patient was admitted to a tertiary care centre. On examination there was evidence of hemiataxia, dysarthria. Contrast brain MRI showed cerebellar leptomeningeal enhancement, CSF studies revealed the presence of oligoclonal bands and IgG concentration of 173 mg/l. Paraneoplastic autoantibody panel was ordered, and the result came back negative. The diagnosis of Demyelinating encephalomyelitis was established, the patient was admitted to an in-patient rehabilitation clinic, where acute symptoms of central vertical nystagmus, right hemiataxia, opsoclonus and dysarthria occurred. On admission to a university hospital (October 2019), visual scans (head CT/MRI) were inconclusive, serological studies were positive for Anti-Yo/PCA1.

A pelvic ultrasound test and CT scan revealed bilateral ovarian tumours with peritoneal carcinomatosis, associated tumour markers were elevated: Ca-125 40,9 kU/l, HE4 140,9 pmol/l.

The diagnosis following histological analysis (high-grade serous carcinoma) was ovarian cancer T3NxM0, stage IIIC, peritoneal carcinomatosis with paraneoplastic encephalitis. The patient was treated with methylprednisolone pulse therapy and plasmapheresis. Due to an advanced cancer stage at diagnosis, the multidisciplinary team recommended palliative care. Conclusions: this case highlights the challenges of early diagnosis of PCD as the clinical picture can be perplexing and late diagnosis has predominantly poor outcomes.

MULTIPLE EXTRAINTESTINAL MANIFESTATIONS IN CASE OF ULCERATIVE COLITIS

Author(s): Agnė Timinskaitė Vilnius universityI, Lithuania Presenting author: Agnė Timinskaitė Tutor(s): Goda Denapiene

Introduction.

Inflammatory bowel disease (IBD) both ulcerative colitis (UC) and Crohn's disease are associated with various extraintestinal manifestations (EIM). Most often EIM manifest in the musculoskeletal system, skin, eyes and hepatopancreatobiliary system, but may involve any organ. EIM leads to decreased life quality, increased morbidity and requires multidisciplinary team work and organ specific treatment to achieve better treatment results.

Case Report. A 52-year-old male was diagnosed with ulcerative pancolitis at the age of 31. The patient has since been treated with methylprednisolone and sulfasalazine, any discontinuation of medication caused acute bloody diarrhea. Treatment with azathioprine was not possible due to its intolerance. Despite the treatment, the patient had frequent and severe flare- ups and was often managed in the department of gastroenterology. A few years later multiple extraintestinal manifestations occurred. The patient became exhausted and asthenic, his BMI was 16,65, malnutrition developed and nutritional support was required. In 2001 autoimmune thyroiditis was diagnosed and L-Thyroxin was prescribed. Three months later occurred hair loss and skin rash - autoimmune alopecia areata and autoimmune dermatitis were also diagnosed.

In 2013 patient presented with, swelling and morning stiffness of elbows and wrist joints pain, he was consulted by rheumatologists and enteropathic arthropathy was identified, IgG4 syndrome was also suspected, but not confirmed. Glucocorticoid therapy was extended and tramadol for the pain was prescribed. In 2015 the patient was presented to ER with acute and severe abdominal pain. After examination colon perforation and stercoral peritonitis were diagnosed, emergency operation with the formation of colostomy was performed. Due to a long-term glucocorticoid use in 2016 secondary adrenal insufficiency developed. Patient was intolerant for any other treatment, all alternative therapies were explored.

During the consilium was decided to continue UC and co-morbidities treatment with a multidisciplinary team approach.

Conclusions.

This case report shows, that clinicians should be aware of possible IBD extraintestinal manifestations, early recognize and treat them. However, medication options are limited and optimal treatment results are not always achievable

PATIENTS WITH THROMBOTIC MICROANGIOPATHY TREATMENT WITH ECULIZUMAB BEFORE THIRD KIDNEY TRANSPLANTATION. CLINICAL CASE.

Author(s): Jurgita Brauklyte Vilnius University, Lithuania Presenting author: Jurgita Brauklytė Tutor(s): Laurynas Rimsevicius

Introduction: Atypical hemolytic uremic syndrome (aHUS) is a rare but life-threatening thrombotic microangiopathy (TMA) that affects multiple organ systems. Most commonly, aHUS is caused by a defect in complement activation. Different mutations are now known to be involved in the pathophysiology of the disease, including mutation in gene encoding complement factor B (CFB). Formerly, aHUS treatment was not disease-specific and was largely restricted to plasma exchange. Eculizumab demonstrated suppression of TMA by inhibiting breakdown of compliment factor C5. The rarity of aHUS and the recent development of targeted treatment, raise interest in clinical practice with eculizumab.

Case report: Patient - a 45-year-old female - in 2009 was diagnosed with acute kidney injury, hemodialysis sessions were started. TMA was confirmed histologically. After first cadaveric kidney transplantation (2010) she was treated due to humoral transplant rejection. Plasmapheresis was performed, anaphylaxsis was observed and it resulted clinical death. 3 years after transplantation - resumed hemodialysis due to worsening transplant function. In 2014 TMA was confirmed histologically from transplanted kidney biopsy. In 2016, a second cadaveric kidney transplantation was performed with anti-thymocyte globulin treatment for immunosuppression. On the tenth day after transplantation, a biopsy of the transplanted kidney was performed due to increasing uremic rates. Plasmapheresis was excluded due to previous clinical death. 2017-01-06 antibody-related rejection was diagnosed; treatment with sol. Medrol 1.25 g, intravenous immunoglobulin 120 g, Rituximab 600 mg, hemodialysis. 2018-09-13 genetic testing has identified the variant CFB c.967A>G, p. (Lys323Glu) in heterozygous state. In 2019, with consilium decision eculizumab treatment was initiated due to genetically approved aHUS and intolerance to plasmapheresis to prevent relapse of TMA in the new kidney. 2020-02-20 a third cadaveric kidney transplantation. Eculizumab was administered once before transplantation and later once weekly. No side effects were observed. Later, due to renal failure, anuria, hemodialysis was continued. 2020-02-28 in the biopsy no signs of aHUS were observed and the changes were considered as an onset of humoral rejection.

Conclusions:

This case highlights the clinical challenges of the diagnosis and management of patients with aHUS - complement-mediated TMA involvement. Information regarding genetic abnormalities and renal function associated with aHUS, as well as estimation of clinical challenges may provide insights into the efficacy of aHUS treatment, which will enable the prediction of therapeutic responses.

Difficulties and challenges in biological treatment of Still's disease - case report

Author(s): Barbara Ostrowska, Kamila Brandys Uniwersytet Rzeszowski, Poland Presenting author: Barbara Ostrowska Tutor(s): Bogdan Kolarz

Still's disease is defined as a connective tissue disease, that is inflammation of joints and internal organs with a heterogeneous course. It is a rare disease that occurs most often at a young age - with onset from 16 to 35 years old.

The patient we described was diagnosed at the age of 26. In his case, the disease was manifested in muscle and joint pain, fever, sore throat, and typical rash. Since then, the patient has been faced with numerous challenges followed by treating this disease. No form of therapy was effective, only biological treatment in the form of tocilizumab brought long-term positive effects. However, this procedure did have serious side effects in the form of impaired liver function, manifested in increased unbound bilirubin level. For this reason, the biological treatment was discontinued due to the serious side effects. However the therapy had to be reactivated due to patient's deteriorating condition and lack of improvement after trying other forms of therapy. One of the limitations was also unavailability of highly effective drugs such as canakinumab in Poland.

Despite the many options available and the high efectiveness of biological treatment it is also not free from negative reactions. In this case, it was necessary to consider whether the potential benefits of treatment outweigh the side effects. Physicians who use modern forms of systemic therapy are increasingly faced with such a dilemma.

Multitherapeutic approach to the treatment of metastatic colorectal cancer

Author(s): Anna Marija Lescinska Riga Stradins University, Latvia Presenting author: Anna Marija Lescinska Tutor(s): Armands Sivins

Introduction: Since 2009, colorectal cancer (CRC) screening has been conducted in Latvia. However, in two thirds cancer is diagnosed at the stage III-IV, when metastases have spread to other organs. The management of metastatic CRC treatment should include several therapeutic approaches, offered by different specialists only in specialized centers. The case report demonstrates painstaking, one-step-at-a-time multitherapy for the third most common cancer and the third cause of cancer death in western countries - colorectal cancer.

Case report:

A 50-years old female presents with a history of abdominal pain and diarrhea for the last few days. Preceded colonoscopy revealed a malignant neoplasm of sigmoid colon. After performing a sigmoid colon resection with D2 lymphadenectomy in a low-surgical-oncology-volume hospital, the results showed - Sigmoid colon cancer III, pT3N2aM0G3R0. Patient was referred to Latvia Oncology Center. In next three months, adjuvant mF0LF0X6 chemotherapy was performed. Control CT-scan and MRI of the abdominal cavity revealed two metastases in Sg5 and Sg7 of the liver and metastases in left parailiacal and paraaortal lymph nodes, which caused occlusion of the left ureter. Percutaneous nephrostomy was placed. Chemotherapy course with additional Irinotecan and Bevacizumab was started. After good chemotherapy response, second operation was performed: right side hemihepatectomy, left bile duct suturing on external biliary drainage, hepatoduodenal ligament, parailiacal and paraaortal lymphadenectomy,

ligation of inferior mesenteric artery with lymphadenectomy (D2 lymphadenectomy was not done at previous operation) and left ureter was resected on block with end-to-end anastomosis and stent implantation. Results of pathohistological examination showed adenoCa metastes in liver and 7 out of 15 lymph nodes contained adenoCa macrometastases. One month after operation patient was hospitalized with poor general condition. MRI scan revealed biloma, common bile duct lesion. During third laparotomy hepaticojejunal anastomosis was sutured on external biliary drainage (Roux-en-Y reconstruction).

Control MRI in 5 months showed metastasis in liver's Sg3. After the patient received stereotactic radiation therapy (SBRT). MRI examination 3 months after the SBRT didn't reveal any metastasis. Control MRI in 3 months revealed specific left parailiacal lymph node - 1,9x1cm. Two weeks later the patient was admitted to hospital for left parailiacal lymphadenectomy and recovered successfully. The multidisciplinary oncology team decision is to proceed treatment with chemotherapy.

Conclusions:

The clinical case shows that if cancer patients undergo surgery in a non-specialized center with a small institutional volume, the number of local relapses is more frequent, which is the result of non-radical surgery. Multitherapeutic approach at specialized centers for the treatment of CRC is the cornerstone for reaching favorable treatment results and prognosis.

Successful treatment of diffuse pulmonary lymphangiomatosis with sirolimus

Author(s): Viktorija Gurskytė, Ingrida Zeleckienė Vygantė Maskoliūnaitė, Ugnius Mickys Vilnius University, Lithuania Presenting author: Viktorija Gurskytė Tutor(s): Virginija Sileikiene

Introduction. Diffuse pulmonary lymphangiomatosis (DPL) is an extremely rare disease characterized by progressive proliferation of lymphatic channels in the lungs, pleura and mediastinum. The disease is believed to be congenital and usually manifests in children and young adults. Without treatment, the progressive growth of lymphatic vessels can lead to chylous effusions and respiratory dysfunction. Currently, there is no standardized treatment for this condition, although several different options have been proposed in literature with inconsistent results. The aim of this case report is to demonstrate the diagnostic challenges of a rare disease and improvement in the condition of a DPL patient treated with sirolimus. Case Report. A 27-year-old man was referred to the pulmonologist due to dyspnea on exertion, chronic cough and intermittent hemoptysis. According to medical history, 8 years prior to the referral the patient's radiological images showed features suggestive of interstitial lung disease. However, at the time the patient was not properly diagnosed and did not receive any treatment. Upon current medical investigation, a chest computed tomography (CT) scan revealed soft tissue masses infiltrating the mediastinum and bilateral interlobular septal thickening. A surgical biopsy was performed, and pathological tissue analysis showed findings consistent with the diagnosis of DPL. Treatment with sirolimus was initiated, maintaining trough concentrations between 10 - 15 ng/ml. At 21 months of treatment, the patient reported reduced symptoms of cough and dyspnea. A CT scan showed decreased interstitial thickening and reduced infiltrations in the mediastinum. Moreover, pulmonary function tests revealed a 33.1% improvement of FEV1 (1.69L pre-treatment compared to 2.25L at 21 months of treatment), and a 28.2% increase in FVC (2.38L pre-treatment compared to 3.05L at 21 months of treatment). The only adverse reaction to the treatment was acne. Conclusions. Due to its rarity, DPL poses certain diagnostic and therapeutic difficulties. Clinical and radiological signs are nonspecific, which is why a surgical lung biopsy is necessary for establishing an accurate diagnosis. To this day, no specific treatment for DPL has been approved. We suggest that systemic treatment with sirolimus may be effective in preventing DPL progression and improving pulmonary function.

Management of overlapping neutropenic sepsis and grade 4 acute skin GVHD after alloHSCT.

Author(s): Vilmantė Vaitekėnaitė Vilnius University, Lithuania Presenting author: Vilmantė Vaitekėnaitė Tutor(s): Anius Zucenka

Introduction:

Acute graft-versus-host disease (aGVHD) is a common complication after allogeneic hematopoietic stem cell transplantation (alloHSCT) and occurs when immunocompetent T cells in the donated tissue recognize the recipient as foreign. In 740 patients with grade II-IV aGVHD after alloHSCT the most common manifestation was skin aGVHD, 81%. Another life-threatening complication for these patients is neutropenic sepsis. The aim of our report is to present the importance of combined treatment options for the management of life-threatening complications in heavily pretreated and immunocompromised post-alloHSCT patients.

Case report:

Our patient presented with a very rare BCR/ABL+ de novo acute myeloid leukemia (AML), which was refractory to Dasatinib and FLAG-Ida therapies. Therefore the patient received low dose Cytarabine/ActinomycinD/Venetoclax (LDAraC/ActD/Ven/Das) and achieved morphological leukemia free state followed by Flu-Bu10-ATG conditioning and sequential matched related donor alloHSCT at day 0. On day+31 an early AML relapse was confirmed.

During LDAraC/ActD/Ven/Das reinduction, on day+35 first symptoms of skin aGVHD appeared with generalized rash in whole body, especially face, neck, armpits and groins, and rapidly progressing erythroderma with multiple bullous elements during the next few days. Treatment of grade 4 skin GVHD consisted of daily Methylprednisone, Mycophenolatum Mofetilum, 3 mesenchymal cell infusions, Rituximab (single dose) and topical Hydrocortisone. From day+43 first signs of skin GVHD resolution were observed with erythroderma resolving and no new rash or bullous elements appearing. On day+53 approx. half of the damaged skin areas have completely resolved.

From day+42 the AML reinduction treatment was complicated by two neutropenic sepsis episodes (caused by multidrug-resistant Kl.pneumoniae and C.parapsilosis) and fungal pneumonia, which were treated with 6 antibiotics (Ceftazidime/Avibactam, Meropenem, Amikacin, Linezolid, Metronidazole and Vancomycin), 2 antifungal agents (Amphotericin-B and Micafungin), local skin care with Bacitracin/Neomycin, daily granulocyte colony stimulating factors and 6 ABO matched related donor irradiated neutrophil transfusions (INTs) on days +45 - +53. The median absolute neutrophil count's (ANC) increment (defined as difference between ANC before and after INTs) was $3,25 \times 10^{\circ}$ /l ($1,9-4,3 \times 10^{\circ}$ /l); both clinical and biochemical improvement was observed after each INT. On day+55 ANC recovery was observed with all infectious complications resolving.

Conclusions:

Aggressive preemptive and complex care is essential in the management of post-alloSCT patients who require both highly immunosuppressive and anti-infective therapies. Neutrophil transfusions may be an effective additive to standard neutropenic sepsis treatment algorithms.

Cervical cancer in pregnant patient with the history of Wilson's disease and liver transplantation

Author(s): Aleksandra Szczesna Medical University of Warsaw, Poland Presenting author: Aleksandra Szczesna Tutor(s): Joanna Kacperczyk-Bartnik, Agnieszka Dobrowolska-Redo Ewa Romejko-Wolniewicz

Introduction

Liver transplant recipients are threatened by a higher a risk of HPV related cancers, due to iatrogenically impaired immunity. Those patients tend to display a highly malignant and metastatic processes more often, which should increase oncologic vigilance during examination. An exact assessment of risk factors may help to direct doctor's steps towards a proper diagnosis.

Case report

A 27-year-old pregnant woman was referred to the tertiary referral center to be treated systemically for cervical cancer staged IIA in FIGO classification. In 2017 the woman received a liver transplant under urgency procedure because of decompensated liver cirrhosis in the course of Wilson's disease. She had undergone a specimen collection at regional hospital, which revealed the high grade cervical cancer. In attempt to preserve the pregnancy the woman agreed to receive a subtotal treatment, which comprised of carboplatin and paclitaxel chemotherapy (CTH) only. After the second course of CTH a preterm premature rupture of membranes was diagnosed, thereby a Cesarean section in 36 th week of pregnancy was performed. The postpartum abdominal ultrasound revealed multiple metastatic tumors localized in liver mainly. The neonate suffered from respiratory distress syndrome, therefore treated at Neonatal Intensive Care Unit and passed on eventually to the mother after a week. Due to a worsening health condition of the woman, the intention to apply the fifth course of CTH was abandoned and palliative care advised. Unfortunately, soon after she had been discharged from the hospital, she orphaned her three children.

Conclusions

Female patients introduced to immunosuppression should undergo strict gynecologic examination to exclude any malignant change on uterine cervix. When atypical cells are found, a wary approach must be applied to the patient. Course of oncological disease in immunosuppressed patients can be more aggressive, which entails limited efficacy of subtotal treatment.

Unexpected radioiodine uptake in pancreatic adenosquamous carcinoma.

Author(s): Aleksandra Prałat, Kacper Prałat Uniwersytet Medyczny im. Karola Marcinkowskiego w Poznaniu, Poland Presenting author: Aleksandra Prałat Tutor(s): Kosma Woliński, Ewelina Szczepanek-Parulska

Introduction: Thyroid scintigraphy is a nuclear medicine examination used to evaluate thyroid tissue. Clinical indications include checking functional status of thyroid nodule, thyrotoxicosis and its differential diagnosis, detection of thyroid cancer and whole body scan for distant metastases, estimation of local residual thyroid post thyroidectomy and follow-up for tumor recurrence. The examination is based on the fact that trapping, metabolism and storage of iodine is more prominent in functioning thyroid tissues than other tissues.

Case description: The 68-year-old man was diagnosed with papillary thyroid cancer in 2013. The patient underwent a thyroidectomy in the same year. In 2015 metastasis of papillary cancer was found on left side of the neck. During this time the patient received radioactive iodine three times. In January 2018, a surgery was performed to remove two lymph nodes - mediastinal and cervical. Histopathology confirmed metastases of papillary carcinoma. Additionally, in June 2018, neck exploration with lymphadenectomy was performed and further lymph node metastases were detected. Therefore, in July 2018 it was decided to give a fourth dose of radioiodine and the patient was referred for post-therapeutic scintigraphy. Surprisingly, performed examination has shwon pancreatic uptake, which is not typical for iodine scintrigraphy. Due to symptoms reported by the patient and in the course of further diagnostics, in 2019 it was decided to perform surgical resection of the pancreas, spleen, tumor of the left lobe of the liver, partial gastrectomy and segmental resection of the large intestine. Histopathology has shown pancreatic adenosquamous carcinoma, which has not been, obviously, associated with thyroid tissue.

Conclusion: There are some cases of unexpected radioiodine uptake, which have been reported. The considered causes of unusual uptake of radioactive iodine include the normal physiological variant, but also benign and malignant pathological lesions. Therefore, it is important to correctly interpret the scintigraphic examination and implement differential diagnosis of atypical radioiodine uptake.

Serous borderline tumor with distant mediastinal metastasis? Exceptional presentation of ovarian tumor

Author(s): Julia Sołek, Dorota Jesionek-Kupnicka Urszula Czernek, Radzisław Kordek Medical University of Łódź, Poland Presenting author: Julia Sołek Tutor(s): Dorota Jesionek-Kupnicka, Radzisław Kordek

Introduction:

Borderline ovarian tumors represent a heterogenous group of non-invasive neoplasm which are qualified as low potential malignant tumors. As characterized as non-invasive they do not give distant metastasis and are characterized with excellent prognosis with approximately 97% 5-year survival rate. Here we report a case of 48 year old woman with distinctive presentation of mediastinal lymph nodes metastasis of ovarian serous adenocarcinoma which has been previously diagnosed as a borderline neoplasm without clinical manifestation of an ovarian tumor.

Case report:

48 year old woman was admitted to the hospital with symptoms of shortness of breath and a tumor mass localized in the mediastinal lymph nodes. After surgical biopsy, histopathological analysis gives ambiguous results with uncertain differentiation between primary lung adenocarcinoma and metastatic tumor. The tissue sample was very scant but small papillary structures with small psammoma bodies could be found. Immunohistochemical study showed CK7+, CK20-, p63-, TTF1-, GATA3-, GCDFP-15-, Mammaglobin-, calretinin-, CK5/6- and especially ER+, PR+, PAX8+, WT1+ what indicate an ovarian tumor as a possible primary lesion, however the serum level of CA-125 was not significant. Further molecular investigation revealed positive results for BRAF mutation and negative results for EGFR, ALK and ROS1 mutations, what support previous recognition ovary tumor as a primary lesion. Furthermore pharmacodiagnostic test for PDL-1 expression was negative. Because PET/CT examination revealed small focal area of increased metabolic activity of 2 cm in right ovary, surgical resection of ovary was performed. Surprisingly histological examination showed typical features of serous borderline tumor. As borderline tumor does not give distant metastasis, suspicion that origin of mediastinal tumor was in ovaries was unclear. At last, after repeatedly assessment and additional staining for Pan Type Cytokeratin (AE1/AE3), one very diminutive focus of invasive serous adenocarcinoma was found, what confirmed that mediastinal tumor is a metastasis from ovary tumor.

Conclusion:

Here we describe extremely rare presentation of serous borderline ovarian tumor with very small focus of invasive serous adenocarcinoma which has become a cause of distal metastasis to mediastinal lymph nodes. To our knowledge this is the first report of such diagnostic dilemma created by unusual clinical presentation of ovarian tumor with distant metastasis, without clinical manifestation of ovarian tumor. The profound diagnostic workup including diagnostic imaging, surgical biopsies and histopathological study with large panel of immunohistochemistry and molecular study were necessary to make a correct diagnosis.

A case of Fournier's gangrene

Author(s): Vismantas Gritėnas Vilnius University, Lithuania Presenting author: Vismantas Gritėnas Tutor(s): Albertas Cekauskas

Background

Fournier 's gangrene is an acute, rapidly progressive, and potentially fatal, infective necrotizing fasciitis affecting the external genitalia, perineal or perianal regions. It is characterized by severe pain that generally starts on the anterior abdominal wall and migrates into the gluteal muscles, scrotum, and penis. Clinical features may include tense edema outside the involved skin, blisters/bullae, crepitus, and subcutaneous gas, as well as systemic findings such as fever, tachycardia, and hypotension. There has been an increase in number of cases in recent times. Despite advanced management mortality is still high and averages 20-30%.

Case report

A 46-year-old male presented to the emergency room with painful enlarged, fist-sized, erythematous scrotum. A medical history revealed the patient had febrile fever and complained of lower abdominal discomfort, which was treated with antibiotics by the physician and was feeling better. However, after a dew days fever came back, pain intensified so he treated himself with aspirin. Soon the patient noticed swelling and little vesicles of the scrotum and was admitted to the emergency room. After a thorough clinical examination and labaratory tests (revealing high CRP and leukocytosis) a clinical diagnosis of Fournier's gangrene was made, and the patient was treated immediately with surgical debridement, dorsumcision and drainage of the pus, followed by the broad-spectrum antibiotic therapy. After the successful surgery and recovery, the patient was then transferred to the plastic surgeons for a scrotum reconstruction, which was completed successfully.

Conclusions

Fournier's gangrene is a life-threatening infectious disease, which rapidly spreads and can cause a septic shock. Therefore immediate surgical treatment with corresponding antibiotic therapy should be initiated as soon as possible to lower the odds of possible complications.

Clinical challenges of chemioterapeutic treatment in patient with gestational trophoblastic disease

Author(s): Denys Shtybel, Ruslan Kulinchenko Viktor Kukhta Danylo Halytsky Lviv National Medical University, Ukraine Presenting author: Ewelina Truszkowska Tutor(s): Emilia Gąsiorowska

Introduction

Choriocarcinoma is a rare malignant trophoblastic tumor, which is the most aggressive form of a gestational trophoblastic disease. Common locations of metastases are lungs, brain, liver, kidneys and bowel. Also, there are reported cases of this neoplasm, which are not associated with gestation. When it comes to the prognosis, it is good if chemotherapy is implemented. However, brain metastases are related with higher morbidity and are real challenge in treating process due to lack of international consensus. In this case, radiotherapy, surgical intervention, intrathecal chemotherapy or even high-dose intravenous chemotherapy may be beneficial and should be concerned single or in combination.

Case report

A 44 years old female patient was admitted to the ER because of headache, vomiting, worsened contact and difficulties with speaking. She was sleepy and slowed down mentally. MR of the head revealed a mass in the left frontal lobe as well as mass effect with the displacement of brain structures. The patient, who gave birth 4 months ago, was consulted by gynecologist. Tough uterus and vaginal bleeding were reported. Also, beta HCG was high- 155085 mI/mL. CT scan showed metastases in the lungs. The diagnosis of choriocarcinoma was made and the patient was transferred to the gynecological oncology clinic. She was in severe condition without verbal contact. Also, central paresis of the facial nerve on the right side occurred. Chemotherapy according to the EMA-CO regimen was prescribed (etoposide, dactinomycin, methotrexate, cyclophosphamide, vincristine). Patient's condition improved and she was discharged from the hospital. Later, chemotherapy was continued however severe pancytopenia appeared, so transfusions and usage of granulocyte growth factor were necessary. Moreover, the patient developed neutropenic fever and was hospitalized in the oncological hospital. The control MR showed a picture corresponding to hemorrhagic changes within choriocarcinoma metastases, other pathologies present in the first MR were absent.

Conclusions

The case highlights the role of rapid diagnostic imaging of neurological disorders. Properly implemented treatment may significantly improve clinical condition of the patients suffering from choriocarcinoma. However, chemotherapy is associated with a number of side effects. Despite the use of granulocyte growth factor, agranulocytosis and neutropenic fever have not been avoided in this patient.

What might be hiding behind coeliac disease? Case report of two patients with Enteropathy associated T-cell lymphoma

Author(s): Agnieszka Turowska, Zuzanna Mielewczyk Poznan University of Medical Sciences, Poland Presenting author: Agnieszka Turowska Tutor(s): Maciej Kaźmierczak

Introduction

Enteropathy associated T-cell lymphoma is characterised by neoplastic proliferation of T cells in patients with coeliac disease (CD) and it commonly manifests as an intestinal tumour. Its incidence is very low (0.05-0.14 cases per 100 000) and it is diagnosed mostly in regions with high prevalence of CD, such as Europe and the USA.

Case report

We describe two cases of patients diagnosed with coeliac disease who developed EATL. The first patient is a 42 year-old male who was diagnosed with coeliac disease due to abdominal discomfort after meals. The patient was first treated with proton pump inhibitors (PPI) without any result. Two years after the diagnosis, the patient's general condition deteriorated. He reported fatigue, anemia as well as basophilia with eosinophilia. The Computer Tomography (CT) scan revealed a tumor within the small intestine. The patient underwent partial small bowel resection. The pathological examination of the resected specimen showed neoplastic cells consistent with EATL. Chemotherapy according to CHOEP schedule was introduced. After six courses of chemotherapy, the patient achieved complete remission. The second patient is a 44 year-old female who had a history of abdominal pain followed by vomiting which lead to the diagnosis of coeliac disease. The therapy with Budesonide was introduced. In spite of the rigorous gluten-free diet, the symptoms exacerbated. The radiological examination revealed a bowel wall thickening. The partial small bowel resection was performed. The microscopic examination in correlation with immunohistochemistry lead to the diagnosis of EATL. The patient was qualified for CHOP chemotherapy. She has undergone three courses up until now. Currently, the patient's general condition is good.

The prognosis in this type of lymphoma is bad. Approximately 20% of patients survive 5 years after first-line therapy. High-dose chemotherapy followed by autologous bone marrow transplantation may improve outcomes. Therefore both patients are currently being qualified for it.

Conclusion

Despite the low incidence of EATL, with these two cases we would like to highlight the importance of diagnostic imaging in patients with coeliac disease who fail to respond to introduced treatment.

Atypical cutaneous manifestation of B-CLL

Author(s): Zuzanna Mielewczyk, Kamil Mieczyński Agnieszka Turowska Poznań University of Medical Sciences, Poland Presenting author: Zuzanna Mielewczyk Tutor(s): Maciej Kaźmierczak

INTRODUCTION

Chronic Lympocytic Leucemia (CLL) is the most widely diagnosed form of leukemia, with over 20 000 cases in the US in 2019. Although the clinical manifestation of the disease can be diverse, skin lesions with neoplastic B cells infiltration is a rare finding.

CASE REPORT

We describe a case of a 68-year-old female patient who was first diagnosed with stage 0 (Rai clinical staging system) B-CLL in 1999. The diagnosis was confirmed by flow cytometry evaluation of the blood. Considering the leukemia's low clinical stage and patient's good general condition, there was no treatment introduced. Fifteen years after the diagnosis, patient presented with skin lesions on her arms. Red patches were below 0,5 cm in diameter, they were not painful or itchy. At first, the lesions were very sparse and limited to one body area but in the course of the disease they multiplied and appeared on forearms, back, thighs and lower legs. A performed biopsy revealed widespread infiltration of cells in dermis, the origin of which was uncertain, but the image strongly suggested lymphocytic lymphoma. Soon after that, a second biopsy proved that the lesions were indeed of B-CLL origin. At first, the patient was treated with chlorambucil for the duration of 3 months. The treatment was unsuccessful and the number of lesions was steadily growing. Therefore, she was qualified to combined therapy: chemo- and immunotherapy according to the BR regimen (bendamustine + rituximab). The result of the treatment was good. We observed reduced number and size of lesions. Three months later, the lesions fully disappeared, leaving only a discoloration on both lower legs. Unfortunately, the applied treatment caused neutropenia, which was first observed in April, 2019 and was treated with filgrastym. Considering visible improvement of patient's health and acquired neutropenia, after 4 courses of BR, the therapy was stopped. In August 2019, based on diagnostic procedures, among them flow cytometry evaluation of the blood and bone marrow, complete remission of B-CLL was established.

Currently, the patient's general condition is good and she comes back to the clinic for regular blood and bone marrow evaluations.

CONCLUSION

The aim of this case is to highlight the importance of skin examination as a part of follow- up in patients with B-CLL. Cutaneous infiltrations may emerge in any stage of the disease. Rarely, like in the presented case, they can be the first symptom of lymphoma progression and indication for systemic treatment.

Vocal Cords Dysfunction, as an asthma-mimicking cause of chronic cough

Author(s): Aleksandra Marzec Medical University of Warsaw, Poland Presenting author: Aleksandra Marzec Tutor(s): Marta Dabrowska

INTRODUCTION

Vocal cord dysfunction (VCD) is characterized by full or partial vocal fold closure leading to difficulty and distress during respiration, especially during inhalation without any organic disease. The main symptoms include wheezing, stridor, sudden laryngospasms or less frequent - chronic cough. Due to the similar clinical picture it is often mistaken for astma, although they may occur simultaneously. The pathophisiology is ambiguous and it may be associated with genetic factors, GERD, rhinusitis, stress, occupational exposition and physical activity, as a trigger. The most effective diagnostic procedure is laryngoscopy, which can reveal the abnormal movement of the vocal cords. The treatment is usually multidisciplinary with logopedic rehabilitation, pharmacology and psychotherapy.

CASE REPORT

The patient was a 44-year-old man, who was reffered to the clinic in order to be further diagnosed due to a chronic cough which had been observed for almost two years. The accompanying symptoms included a dyspnea even with a little exertion and the deterioration of the effort tolerance. They began with the occupational exposure to chemical substances while working in the paintshop. The exacerbating factors were also intensive scents and temperature changes. The patient had been hospitalized a few times before the diagnosis of RADS and RUDS syndrome was made. This syndrome is considered to be a type of occupational asthma. He was treated with glucocortycoids and bronchodilars, but without a significant change. On admission, patient was in a fair general condition with dyspnea, intensified cough, tachypnoe and wheezing. Further diagnostics, proceeded in the clinic, excluded the presence of occupational asthma and revealed the abnormalities, characteristic for VCD which enabled conducting the appropriate and effective treatment.

CONCLUSION

Vocal Cord Dysfunction is a pathology, which can mimic the clinical picture of more frequent diseases, with asthma out front. Similarities in syndromes may cause difficulty with making a correct diagnosis, and so providing the successful treatment afterwards.

Clinical case of a very persitent gingival squamous cell carcinoma

Author(s): Airidas Brazlauskas Vilnius University, Lithuania Presenting author: Airidas Brazlauskas Tutor(s): Ignas Karnas

Introduction:

Squamous cell carcinoma (SCC) is the most common malignant neoplasm affecting the oral cavity. It accounts for more than 90% of all oral malignancies. This cancer is generally more prevalent in males than females, however this is not always true for gingival SCC. The primary treatment option for gingival SCC is surgical.

Case report:

A 58-year-old female reported to the Department of Head and neck surgery, National Cancer Institute, Vilnius, complaining of a painful ulcer on the left side of inferior gingiva, which appeared 4 months ago. Extraoral examination showed a palpable infiltration in the left submandibular region and a swollen left cheek. Intraoral examination revealed a large tumor in the left side of inferior gingiva with unclear borders, infiltrating the mandibula and buccal mucosa, almost reaching the interior lip corner. Histopathological analysis of biopsy specimen revealed moderately differentiated (G2) squamous cell carcinoma. Head and neck MRI visualized a large rT4N3 inferior gingival tumor, infiltrating the mandibula with pathological lymph nodes in IB, IIA neck zones. The patient was discussed on tumor board. It was decided to perform a radical surgery: mandibular and left cheek resection with a radial forearm flap intra-oral reconstruction, supraclavicular artery island flap cheek reconstruction, elective I, II, III neck zone lymphonodectomy. The surgery was successful, the ends of radial artery and vein were anastomosed to the facial artery and vein ipsilaterally, both flaps had sufficient blood circulation. Histopathology showed that resection margins were tumor free with 19 total metastatic lymph nodes on both sides of the neck. The tumor board agreed to add postoperative radiochemotherapy. 2 months after finishing radiochemotherapy the patient came for a follow-up. A 2cm size tumor was palpated on the left side of the neck. A percutaneous aspiration biopsy was taken, which contained squamous cell carcinoma, thus confirming progression of the disease. An elective left IV neck zone lymphonodectomy was performed along with the metastatic lymph node resection. The metastasis resection margin was tumor free and 1 of 14 lymph nodes were pathological in the IV zone. However, after the surgery, the patient developed a suspicious rash on both sides of the neck, another biopsy was taken and it showed the same cancer cells. It was decided to start a first-line palliative chemotherapy (cisplatin, 5-fluorouracil) with cetuximab biological treatment.

Conclusion:

Despite recent advances in cancer detection and therapy, oral cancer remains a public health problem. A strong association has been established between the advanced stage of disease and poor prognosis in oral cancer. The overal survival rate for GSCC is said to be around 54%. Treatment of SCC of the gingiva is primarily surgical. Radical neck dissection, or its modification, is the standart treatment for the metastatic lymph nodes.

The usefulness of fatigue examination on monitoring the effects of venesection treatment in a 42-year-old man with newly diagnosed hereditary hemochromatosis.

Author(s): Michał Świątczak, Grzegorz Raczak Ludmiła Daniłowicz-Szymanowicz Medical University of Gdańsk, Poland Presenting author: Michał Świątczak Tutor(s): Ludmiła Daniłowicz-Szymanowicz

Introduction: Hereditary hemochromatosis (HH) is a genetic disease, in 80% based on HFE-gene mutation, leading to increased accumulation of iron in body tissues, resulting in the generation of oxidative stress and damages of many organs. Cirrhosis, diabetes and dark skin color were the main symptoms of HH before the era of HFE gen revealing. An introduction of genetic tests in patients with abnormal iron management parameters to routine clinical practice makes it possible to diagnose HH at the early stages before the patients demonstrate symptoms of advanced diseases. Instead of the above-mentioned classic triad, nowadays one of the early symptoms noticed by patients with HH is the feeling of severe, chronic fatigue, which very often significantly decreases the quality of life of these patients. So far there is no data in the literature regarding the objectification of the level of fatigue in these patients, as well as the use of fatigue assessment in monitoring the effectiveness and efficiency of treatment of patients with HH. This study aimed to point out the usefulness of those procedures.

Case report: We present the case of a 42-year-old man with a genetically confirmed diagnosis of HH (C282Y/H63D mutation in the HFE gene). At the time of HH diagnosis, the laboratory tests were as follows: iron 157 ug/dl, ferritin 730 ng/ml, transferrin 200 mg/dl, TIBC 260 ug/dl, TSAT 60%, hemoglobin - 14.6 g/dl; alanine transferase 21 U/l. The patient underwent the questionnaire contained 3 scales assessing fatigue severity (Fatigue Assessment Scale [FAS], Chadler Fatigue Scale [CFQ] and the Fatigue Severity Scale [FSS]) before the first venesection, and next a week before and up to two weeks after each venesection till 6 months of therapy. FAS scale evaluates the overall severity of fatigue, CFQ assesses fatigue at last month and FSS at last week. Finally, the patient had 6 venesections within 6 months of observation, and the reduction in the ferritin level from 663 to 175 ng/ml was observed. Additionally, the FAS score improves from 25 at the first questionnaire to 17 points after 6 months, in CFQ from 12 to 5, and in FSS from 37 to 13. A noticeable lowering of the degree of fatigue was observed after the third venesection. Eventually, after the sixth venesection, a decrease in the degree of fatigue obtained a spectacular result remarkable in used scales as well as in the opinion of the patient.

Conclusions: Venesection treatment significantly reduces the intensity of fatigue in patients with HH. Fatigue examination with the use of appropriate scales may be a simple, non-invasive way of monitoring the progress of therapy, as well as one of the elements taken into account in determining the frequency of venesection.

Thymus hyperplasia, progressive lymphocytic interstitial pneumonia and B-cell lymphoma associated with Sjogren's syndrome.

Author(s): Polina Viktorova Riga Stradiņš University, Latvia Presenting author: Polina Viktorova Tutor(s): Artjoms Spaks

Background. Sjögren's syndrome is a chronic, slowly progressing autoimmune disease characterized by lymphocytic infiltration of the exocrine glands resulting in xerostomia and keratoconjunctivitis sicca. Thymus hyperplasia associated with Sjogren's syndrome is a rare morbid state. L ung involvement includes peribronchial infiltrates and rarely lymphocyte interstitial pneumonitis. The evolution into B-cell lymphoma represents one of the main causes of decreased survival in primary Sjögren's syndrome and occurs in about 5% of patients.

Case report. Patient was stationed 13.01.20 due to lung damage and dryness of the mouth and eyes. CT: progressive lymphocytic interstitial pneumonia. Tissue mass in the anterior mediastinum present, which has increased in size compared to previous CT (2015). History: massive post-tuberculosis changes in lungs and bronchi. Repeated unexplained fevers starting from age 30. Recurrent pneumonias. EMG - myasthenic reaction negative. 13.01.20 IgG 17.90 g/L; IgA - 4.72 g/L. ANA in Hep-2 cells+, homogeneous and spotted; ANA 1: 2560; ENA+; Anti-SSA+; p-ANCA+; Ro-52+; RF 116 IU/mL. Normal levels of complement. 14.01.20 MDT meeting - radical resection for thymoma. 15.01. Salivary gland biopsy - lymphocytic infiltration corresponding with Sjogren's syndrome. CT: Chronic interstitial changes with bullous areas in the basal parts of the lungs without pleural content. Protein fractions: total protein 68 g/L, albumin 49.4 %, gamma protein 25.6%; Kappa light chains IgG4.59 g/L; Lambda light chains IgG 2.74 g/L. 20.01. Clinical diagnosis as for 21.01.: Thymoma. Primary Sjogren's syndrome with xerophthalmia, xerostomia, association with RF, ENA and SSA, SSRO elevation, polyclonal hyperglobulinemia. 22.01. Operation: left side resection VATS mediastinum, marginal resection of S1/S3 fragment. 23.01.

Histopathology report: NSIP (non-specific interstitial pneumonia)-like tissue response in lung tissues with dense lymphoid aggregates with interstitial fibrosis may correspond with Sjogren's syndrome; highly prominent hyperplastic lymph node structures in the mediastinum; 12.03 consensus - B lymphoma and initial infiltration in lungs suspecta, lymphoplastatic or marginal zone lymphoma, further evaluation needed.

Conclusions. Sjogren's syndrome is an important differential diagnosis for consideration in case of thymus hyperplasia with rapid growth dynamics, as well as persistent lymphocytic interstitial pneumonia and B cell lymphoma, especially if the marginal zone lymphoma type is confirmed. Those clinical manifestations are very rare but significant and multidisciplinary approach in those cases is necessary in order to set the correct diagnosis.

Three-dimensional echocardiography as a promising method for the diagnosis of myocardial perforation in patients with implanted electrical devices.

Author(s): Michał Świątczak, Maciej Kempa Grzegorz Raczak, Ludmiła Daniłowicz-Szymanowicz Medical University of Gdańsk, Poland Presenting author: Michał Świątczak Tutor(s): Ludmiła Daniłowicz-Szymanowicz

Introduction: The expanding indications for pacemaker (PM) and implantable cardioverter defibrillator (ICD) therapy have led to a substantial increase in device implantation rate. One of the rare, but potentially lethal complication of this kind of intervention is a perforation of the right ventricle (RV) of the heart, it occurs with a frequency of 0.3% to 1.2% of the total number of implantations. Diagnosis of such complications is a clinical challenge, especially when they do not lead to pericardial tamponade. Traditional 2D ECHO often does not adequately demonstrate lead tip migration, and chest computed tomography (CT) usually is necessary for final diagnosis. We would like to present 2 cases from our cardiological department which highlights the potential role of 3D echocardiography in the diagnosis of this important complication.

Case report: The first is a case of an 81-year-old woman with a history of tachycardia-bradycardia syndrome, qualified for implantation of a DDDR pacemaker. After the procedure the patient did not have any alignments, the PM function was correct. In 2D ECHO perforation was suspected: the tip of the electrode passed ca. 2 mm through the border of the RV free wall during the systole. Chest CT did not confirm the diagnosis. The patient was discharged from the hospital and followed-up in the Out-Patients Clinic. The next 2D ECHO images were found to be as previously, and additionally, 3D ECHO was performed showing the picture of the epicardium elevation during the systole and RV electrode's tip just passing the epicardium - the diagnosis of perforation was evident. The patient was qualified to lead extraction and new RV lead implantation. After that, all clinical parameters returned to the basal values.

The second case concerns a 62-year-old man with a history of paroxysmal atrioventricular II textdegree block qualified for implantation of a DDDR pacemaker. On the third day after surgery, he reported sharp chest pain. Additionally, fresh ECG changes (ST elevation and PR depression in I, II, aVL, aVF, V3-V6 leads) and an increase in CRP (180 mg/l) were observed, the PM function was correct. Therefore 2D ECHO was performed in which "dry" perforation was suspected and 3D ECHO revealed the RV electrode's tip passing the epicardium through ca. 8 mm away. The diagnosis of perforation was evident - in this case, CT was unnecessary. The patient was qualified to lead extraction and new RV lead implantation. After this, all clinical parameters returned to the basal values.

Conclusions: 3D echocardiography should be considered as a promising method for diagnosing cardiac perforation with electrodes of implantable devices and can decrease the necessity of CT performance, or even be the only method for diagnosis this dangerous complication in some cases. It can result in faster diagnosis and reduce the cost of hospitalization for this kind of patients.

A rare case of a primary intraosseous leiomyoma of the clivus in an immunocompetent patient

Author(s): Natalia Rzewuska Medical University of Warsaw, Poland Presenting author: Natalia Rzewuska Tutor(s): Jacek Kunicki

Introduction:

Isolated clival lesions are rare pathologies, the most common of which being chordoma (23-40% of the lesions within the area of clivus), although even this tumor accounts for only 0.1-0.2% of intracranial tumors. Symptoms of intracranial tumor growth, such as headaches and blurry vision, are not pathognomonic for any particular type of clival tumor.

Leiomyoma are benign tumors derived from smooth muscle cells that are rarely described as primary brain and cranial base tumors. To date only about 30 cases of primary intracranial leiomyomas have been described in the literature. Typical leiomyoma locations are in genitourinary and gastrointestinal tract. The vast majority of leiomyomas occur in patients with immunodeficiency disorders, including HIV-positive patients or transplant recipient.

Case Report:

The 56-year-old female was admitted to the hospital due to severe headaches lasting for 2 months. They were accompanied by bilateral pain in the orbital region. Head Magnetic Resonance Imaging (MRI) scan with contrast revealed a centrally located, intraosseous clival lesion that modelled the sphenoid sinus, however it did not extend beyond the clival area. The picture of the change was ambiguous so primally the diagnosis of a chordoma or foci of a fibrous dysplasia has been proposed. Other possible diagnoses included the most common pathologies of the clival region such as chordoma, chondrosarcoma, fibrous dysplasia, myeloma, solitary fibrous tumor (SFT) and metastases of other cancers (in accordance with their incidence rate in this region). Endoscopic transnasal transsphenoidal resection of the tumor was performed. Histopathological and immunohistochemical examination of the tumor sample surprisingly revealed it to be an intraosseous leiomyoma, a very rare type of tumor in this area. Due to the diagnosis, patient was screened for immunodeficiency disorders such as HIV infection, however proved to be immunocompetent.

Conclusion:

To the best of our knowledge (based on the analysis of the literature) this case of leiomyoma of the clival area in an immunocompetent patient will be the first ever documented in the literature. This case proves that tumor with leiomyoma morphology, although very rare in the location of the cranial base, can be considered as a possible diagnosis, after more frequent and typical tumors of this location (chordoma, chondrosarcoma, fibrous dysplasia) has been ruled out.

One Gunshot to the Head and Death due to Chronic Coronary Syndrome. A Case Report

Author(s): Beatričė Raščiūtė Vilnius University, Lithuania Presenting author: Beatričė Raščiūtė Tutor(s): Sigitas Laima

Introduction

Noncommunicable diseases (NCD) are the reason for 71% of all deaths globally. Most of them are due to cardiovascular diseases. However, suicide affects less of a population. Unfortunately, Lithuania remains a leader in suicide rates, while globally rates are calculated up 10, 6 in Lithuania it reaches 24,4 per 100 000 population. One of the methods is gunshot suicide. The mortality rate of gunshot wounds (GSW) is over 90%.

This case shows that sometimes GSW is not the main cause of death despite the high mortality rate. Case report

A 60-year-old man was found in a sedentary position at home. There was a gun lying next to him and a non-perforating wound on the right side of his head. A suicide was suspected, so the autopsy was initiated. External examination revealed no violence, or trauma signs. Only the dorsal surface of the right palm was marked with soot. A detailed inspection of the GSW was performed. It was on a temporal site with a 1,5 cm canal penetrating the temporal muscle. At the bottom a metal foreign body was found. The temporal bone was examined and two fractured bone fragments without displacement were found. However, during an inspection of dura mater no discoloration or lesions were found, only up to 3 ml traces of blood. Investigation continued to subdural region, which was clear with no clots. Eventually, atherosclerotic plaques were noticed in the basilar arteries causing 25% stenosis. During an internal examination. most organs were not damaged except the heart. About 50% of the heart was covered in up to 1,5 cm of epicardial fat. Besides, inspection of coronary arteries revealed calcified atherosclerotic plaques in both vessels, which caused up to 75% stenosis in the right and almost complete stenosis in the left coronary artery. Major atherosclerotic changes were also found in the aorta. While examining myocardium, a large post-infarction scar was noticed in the anterior wall. It is known that the patient had diabetes and consumed alcohol. Therefore, to eliminate alternative causes of death, blood and urine samples were taken. However, there were no signs of substance abuse, only high blood glucose levels. According to all findings, chronic coronary disease was confirmed as being the main cause of death with acute cardiopulmonary arrest as a complication. Gunshot to the head was confirmed as a mild disturbance of the health.

Conclusions

Although, GSW seemed to be the main cause of death it turned out to be the most unpredicted yet common cause. The premise of this turnout is that the patient was in a risk group regarding known factors such as age, sex, diabetes and alcohol consumption. Moreover, increases in sympathetic nervous stimulation and circulating catecholamines induced by emotional stress could contribute to cardiopulmonary complications. Consequently, in situations like this autopsy should always be performed to confirm the true cause of death.

The Importance of FERMT1 Gene Analysis in a Rare Undiagnosed Case of Kindler Syndrome. A Case-Report.

Author(s): Andrei-Gabriel Zanfir, Tamara-Stefania Curea University of Medicine, Pharmacy, Science and Technology "George Emil Palade" Presenting author: Andrei-Gabriel Zanfir Tutor(s): Ana Zanfir

Introduction: Kindler Syndrome (KS) is a rare dermatological hereditary disorder characterized by congenital skin blistering, poikiloderma, photosensitivity, and cutaneous atrophy. Although the condition presents during early childhood, numerous patients have not been diagnosed until later in life. The aim is to present a rare undiagnosed case of a 46-year-old female patient from the rural area, recently diagnosed with KS, and also to show the importance of the genetic analysis in this syndrome through this case presentation.

Case Report: A 46-year-old female, born to skin-healthy parents, presented to our clinic for the presence of sunburns at the minimal exposure to sunlight, multiple painful blisterings on the hands, feet, and face since birth, anal stenosis, responsible for severe constipation, urethral stenosis, dysphagia from early childhood due to multiple oesophageal strictures and photosensitivity from adolescence. Physical examination showed poikiloderma involving the back, the upper chest, the face and the neck. Also, plantar hyperkeratosis and onychodystrophy were found. The oral cavity investigation described periodontitis, desquamative gingivitis, xerostomia and keratotic papules in the oral mucosa. The ophthalmologic examination revealed neovascularization, corneal-thinning and keratoconjunctivitis. The haematological, biochemical and immunological examinations were normal. The histopathological examination described highly dilated vessels with severe histiocytic infiltration, pigmentary incontinence, hyperkeratosis, and dermal atrophy, characteristics for KS. No depositions of complement or immunoglobulins were found during immunofluorescence mapping. Mutation analysis of the FERMT1 gene on the short arm of chromosome 20 was initiated, and the KS mutation in exon 5 of the gene was present.

Conclusions: Patients sufering from KS are characterized by multiple malformations and the high-risk of developing squamous cell carcinomas, therefore, the genetic diagnosis of this disorder is important for the future management of this rare type of epidermolysis bullosa.

Impact of novel treatment strategies on glioblastoma prognosis - a case study

Author(s): Marcin Kaszkowiak Medical University of Lodz, Poland Presenting author: Marcin Kaszkowiak Tutor(s): Bartłomiej Tomasik

Introduction

Glioblastoma (GBM) is the most aggressive and common malignant primary brain tumor. The existing treatments, including surgery followed by chemoradiotherapy, are only minimally effective and result in median survival time between 12 and 15 months. In recent years, however, multiple novel treatment strategies were developed (e.g. chimeric antigen receptor T-cells, anti-PD-1 immunotherapy, tumor-treating fields or *alpha*-radiation emitters).

Here, we describe a patient that was administered several experimental treatment modalities, in addition to standard ones, and has now been living 3.5 years since diagnosis with only partially decreased quality of life.

Case report

The patient, 34-year old male, was admitted to a hospital in central Poland in December 2016 after a first-time seizure, preceded by a significant loss of strength in his left arm. The MRI revealed a small tumor (10mm in diameter) in the motor area of the right frontal lobe. It was removed surgically in February 2017. Following pathomorphological examination, the tumor was classified as GBM, IDH-wildtype, GFAP positive, with Ki67 index of 15%. The excision was followed by chemoradiotherapy (60.0 Gy in 2.0 Gy fractions with concurrent and adjuvant temozolomide).

In November 2017, a non-symptomatic relapse was spotted on MRI. The recurrent tumor was then infused with MDNA55, interleukin-4 fused to Pseudomonas exotoxin, according to the clinical trial protocol (NCT02858895). On the second day after the administration, the patient experienced several seizures and developed left hemiparesis (which later improved due to intensive rehabilitation).

In October 2019 another non-symptomatic relapse was spotted on MRI. Patient underwent tumor cytoreduction and intracavitary injection of an *alpha* emitter (213Bi-DOTA-Substance P analogue) - two injections have been performed so far with a good tolerance.

Currently, the patient has Karnofsky Performance Scale score of 70, with occasional left hand shaking and spasticity (successfully controlled with medical marihuana) and diminishing hemiparesis involving mainly the lower limb.

Discussion

Despite recent progress in therapeutic strategies development, GBM remains an incurable disease with a dismal prognosis. However, the patient we describe, living a relatively good-quality life already for 3.5 years since diagnosis, serves as a proof of concept that modern medicine, combined with intensive, personalized care and in lack of comorbidities, may significantly improve patient's outcome.

Diagnostic difficulties observed in a patient with mixed connective tissue disease (MCTD) as a final diagnosis - a case study.

Author(s): Michał Kłos, Malwina Baturo Poznan University of Medical Sciences, Poland Presenting author: Michał Kłos Tutor(s): Bogna Grygiel-Górniak

Introduction: MCTD is defined by a combination of clinical and serologic features. Patients share overlapping features of SLE, systemic sclerosis, polymyositis/dermatomyositis and rheumatoid arthritis. Patients also typically have serological findings like a very high ANA titer and what is distinct - antibodies directed against a specific ribonuclease-sensitive ENA - U1 RNP. However, many scientists question the idea that MCTD is a distinct disease, because over time some patients start to fulfill diagnostic criteria for other connective tissue diseases. A lot of studies have explored the subject, but no really large-scale prospective studies have been undertaken, and the results of later studies have been just as contradictory.

Case report: A 32-year-old Caucasian male started to complain of freezing fingers, skin stiffness, joint pain, fatigue and decrease in effort tolerance. In examination Raynaud's phenomenon, dermatosclerosis, migrating arthralgia, a presence of cracklings and whistlings over the lungs were found. X-ray evaluation of the chest showed lung fibrosis in basal parts (interstitial lung disease - ILD was found). Positive anti-U1RNP antibodies were detected at a titre of 1:2560 and he was diagnosed of MCTD. The patient was treated at the beginning with cyclophosphamide (CF) i.v. (total dose 4 g), then mycophenolate mofetil combined with methylprednisolone (MP). Throughout the next years ulcerations and scars on fingertips appeared and the patient was also diagnosed with hypertension and hypercholesterolemia. Recently (2019 year), HRCT was performed and it showed honeycombing and groundglass changes. In spirometry signs of a restrictive disease were found. The latest serological results of antibodies against U1RNP were still positive, at a titre of 1:5120. Because of exacerbation of clinical signs and radiological progression of fibrosis, intravenous CF was again implemented. Right now the treatment includes CF infusion every month (total dose 6,4 g till now) and MP in a dose of 6 and 8 mg a day alternately.

Conclusions: In spite of fact that symptoms of the patient at the beginning may have indicated to systemic sclerosis, the positive anti-U1RNP antibodies titre and development of clinical features resulted in the final diagnosis of MCTD. The presented case illustrates the progression of the disease, despite of long stabilization period, which require the re-treatment of intensive immunosuppressive intravenous therapy.

Are cardiac troponins always reliable?

Author(s): NIKOLAOS KONTOMITROS, CHALENT ALEXAKIS
IOANNA NIKOLETA ANDREOPOULOU, BEATRICE ELIZABETH MOREA
University of Medicine and Pharmacy 'Carol Davila', Bucharest, Romania
Presenting author: KONTOMITROS NIKOLAOS
Tutor(s): KONTOMITROS THRASIVOULOS

Myocardial infarction is responsible for over 15% of mortality each year, with the cardiac troponins playing a major role in the diagnostic algorithm. However, a positive troponin test result in peripheral blood can be detected either during myocardial injury or from falsely positive test results. One of the causes of false positive elevation of cardiac troponin I assay is the presence of heterophile antibodies.

A 55-year-old healthy female patient, working as a farmer, presented in our hospital's emergency department with an acute retrosternal chest pain radiating towards her neck. The patient did not have any significant family and personal medical history. On clinical examination the patient was afebrile, tachypneic and tachycardic with a mild systolic murmur over the mitral area. ECG showed sinus rhythm, while blood tests revealed an elevated cardiac troponin I. After being transferred to a more specialized hospital, echocardiography and coronary angiography were performed, which revealed no lesions. During the hospitalization troponin I remained at the same level while troponin T which is considered to be more sensitive was negative. The patient was monitored and treated with anticoagulant and secondary preventive therapy. After excluding cardiac abnormalities, the next step was to review the differential diagnosis of non-cardiac causes leading to a false positive elevation of cardiac troponins. These include the interference with alkaline phosphatase, fibrin, heterophile antibodies, hemolysis, instrumentation malfunction, laboratory error, subarachnoid hemorrhage, critical illness and renal failure. A tertiary laboratory revealed the presence of heterophile antibodies that interacted with the ELISA method used to measure the cardiac troponin I levels, yielding false positive results.

In conclusion, this case report shows the importance of correlating both the clinical, electrocardiographic and imaging tests despite the importance of biomarkers in the diagnosis of myocardial infarction. Heterophile antibodies may arise accidentally or in patients with frequent exposure to foreign proteins, like occupational exposure to animals (farmers, veterinarians, pet owners). Our patient was a farmer living in a rural area where close contact with animals is prevalent. It has been reported that heterophil antibodies lead to a false positive result in one of 2000 patients assessed by modern immunoassay methods. In that way, if heterophile antibody positivity is suspected, troponin levels should be reevaluated with another device or method.

Possible influence of adverses genetic abnormalities on response to treatment in acute leukemia - case report.

Author(s): Weronika Zajączkowska, Aleksandra Wnuk Poznań University of Medical Sciences, Poland Presenting author: Weronika Zajączkowska Tutor(s): Andrzej Szczepaniak

Introduction

Mixed-phenotype acute leukemia (MPAL) encompasses a rare group of clinically, immunophenotypically and genetically diverse leukemias, in which blasts express lineage-defining markers from both myeloid and lymphoid ontogeny. MPAL constitutes up to 3% of all cases of acute leukemia.

Case report:

In November 2019 48-year-old caucasian

man complained of increasing fatigue, dry cough and swollen left lower limb (LLL). Additional evaluation on admission to hospital in Onsbruck revealed hyperleukocytosis 187 G/l, LLL thrombosis and pulmonary embolism. The bone marrow (BM) aspiration showed infiltration of 94% blast cells with aberrant immunophenotype of myeloid and lymphoid markers: CD133, CD34, CD117, CD13, CD2, CD3, CD7 and CD45. The cytogenetic analysis of the BM showed normal karyotype but the Next Generation Sequencing revealed FLT3-ITD, DNMT3A and RUNX1 mutations. The diagnosis of MPAL, T/myeloid, not otherwise specified was set according to WHO 2016 criteria. The patient received 5 days of cytoreductive therapy and after that he was transferred to Hematology Clinic in Poznan. Induction therapy was postoponed due to pancytopenia on admission. After re constitution of granulopoesis and confirmation of BM infiltration chemotherapy with cytarabine, cladribine, daunorubicin (DAC) and dexamethasone was introduced. The lumbar punction did not show central nervous system involvement. Due to persistent fever high resolution CT and bronchofiberoscopy were carried out and suggested fungal infection of the lungs. The amphotericin b and voriconazole treatment was applied with clinical improvement. The BM evaluation after the first induction showed no remission (50% cells with leukemic phenotype). Reinduction therapy with fludarabine, cytarabine, mitoxantrone (FLAM) was given and match sibling donor was found. However, there was also no remission after second induction. The rescue therapy with fludarabine, cytarabine, idarubicin, filgrastim (FLAG-IDA) was introduced in March 2020. On the last day of chemotherapy, the patient presented dyspnea, edema of the LLL. Despite immediate intensive care and anticoagulation therapy, the patient died in the mechanism of acute pulmonary embolism.

Conclusions

This case is an example of relatively rare and primary resistant type of acute leukemia with multiple adverse genetic abnormalities (DNMT3A, FLT3-ITD, RUNX). There are no treatment standards for this type of leukemia. According to existing recommendations, based on case reports, treatment with AML or ALL-like regimen followed by allogeneic stem cell transplantation seems to be the most effective one. There are also no data about treatment MPAL with new drugs, such as midostaurin.

PAPILLARY MUSCLE RUPTURE AFTER ACUTE MYOCARDIAL INFARCTION: A CASE REPORT

Author(s): Audre Alonderyte Vilnius University Faculty of Medicine, Lithuania Presenting author: Audre Alonderyte Tutor(s): Pranas Serpytis

Background: Mitral regurgitation after myocardial infarction can be caused by several mechanisms. One of them is papillary muscle dysfunction, which could cause hemodynamic instability, pulmonary edema and cardiogenic shock which requires urgent attention.

Case report: 80 years old Caucasian women admitted to the hospital due to ischemic chest pain. ECG showed atrial fibrillation, ST-segment elevation in II, III, aVF (inferior myocardial infarction). Troponin-I 604 ng/l. The patient underwent coronary angiography and embolization in smaller branches was suspected. Transthoracic echocardiogram after the procedure showed MVR II-III o , TVR I o , AoVR I o . After 2 days the patient developed progressive respiratory distress, hypotension, and tachycardia. Echocardiography was repeated and demonstrated pulmonary hypertension, MVR IV o , TVR III o , MV anterior leaflets A2-A3 are lower than MV annulus (1.6 cm in left atria chamber) and A3 edge is free. Due to echocardiogram findings ruptured chordae and severe prolapse were suspected. The surgical team decided to operate, but due to permanent atrial fibrillation, the patient was using Dabigatran 150 mg 2 times a day. Because of emergent situation antidote Idarucizumabum 5mg/10min i/v was administered.

After that, the patient was transferred to cardiac surgery. The mitral valve was replaced with artificial valve St. Jude No.29 and tricuspid valve annuloplasty with De Vega suture was performed. During operation pulmonary edema has developed, and urgent medial sternotomy was made. Cardiopulmonary bypass was applied and after opening the right atrium, septum and left atrium atrial septal defect $(\tilde{0}, 5 \text{cm})$ was found. Revising the mitral valve, papillary muscle rupture was seen. TEE during the procedure showed a functional mitral valve and TVR I-II o . The post-operative period was uneventful and the patient had survived.

Conclusion: papillary muscle rupture is a rare and life-threatening complication after myocardial infarction. Additional attention should be provided for patients with inferior or posterior STEMI, non-STEMI, and women. After confirmation of diagnosis, surgery should be performed as soon as possible.

Pulmonary embolism in a patient with chronically elevated D-dimer level

Author(s): Marta Witczak Medical University of Lodz, Poland Presenting author: Marta Witczak Tutor(s): Joanna Miłkowska-Dymanowska

Pulmonary embolism (PE) is a common potentially life-threatening disease. In spite of high incidence, its diagnosis remains challenging, mostly because of the great variety of clinical manifestations. Typically occur dyspnea, cough, chest pain and hemoptysis, but the symptoms of PE may be subtle and mimic other diseases.

I describe a case of a 57-year old woman with exertional dyspnea and a 10-year old history of elevated D-dimer plasma levels, who was later diagnosed with pulmonary embolism. She was referred to our clinic by her pulmonologist due to clinical suspicion of chronic thromboembolic pulmonary hypertension (CTEPH). Over the last 2-3 months she had noted increased fatigue and shortness of breath on exertion, that prevented her from climbing more than one flight of stairs. The patient denied any cough, hemoptysis, chest or calf pain. She had no history of thrombosis, recent trauma/surgery, prolonged immobilization, long-haul travel, malignancies, hormone replacement therapy or smoking. Her family history was insignificant. Physical exam was unremarkable. The initial laboratory results revealed extremely high (1420 ng/ml) D-dimer level. ECG was notable for inverted T-wave in lead V1. Echocardiography showed no signs of pulmonary hypertension. Right atrium and right ventricle were not dilated. Left ventricular ejection fraction was 60%. CT-Pulmonary Angiogram demonstrated pulmonary embolism. After that, the dose of enoxaparin sodium was increased from 40 to 80 mg/kg. Recovery was uneventful, after 5 days the patient was discharged from the hospital. Before that, enoxaparin sodium had been changed to rivaroxaban, initially at a dose of 15 mg twice daily for 3 weeks, then 20 mg daily for at least 3 months.

The negative predictive value of D-dimer tests is high, but they have a low positive predictive value. Elevated D-dimer levels may be caused by other circumstances such as malignancies, infection, inflammation, pregnancy or advanced age. The D-dimer tests are thus unsuitable for PE to be confirmed and they are not required in cases with highly suspected PE. Nevertheless, they are useful to rule out this diagnosis in patients with low or intermediate clinical likelihood of PE and they were a significant clinical clue in this case. Clinicians must remain alert to the possibility of medical errors related with misinterpretation of D-dimer test results in patients with persistently elevated D-dimer levels.

Healthy girl born to a Robertsonian translocation carrier after preimplantation genetic diagnosis: the first time in Lithuania

Author(s): Adele Gudleviciute Vilnius University, Lithuania Presenting author: Adele Gudleviciute Tutor(s): Diana Ramasauskaite, Raminta Bausyte Zivile Gudleviciene

Introduction. Preimplantation genetic diagnosis (PGD) is a genetic testing procedure that is performed before the implantation of embryos for the identification of genetic abnormalities. It is commonly performed when one or both expecting parents have such abnormalities and are at a high risk of passing them to their offspring.

Case report. A 27-year-old woman and a 31-year-old man, a married couple, were referred to Santaros Fertility Center after trying to conceive for 4 years. In previous marriage woman got pregnant naturally and decided to terminate the pregnancy. Husband does not have any children. Transvaginal ultrasound revealed very low ovarian reserve and anti-Mullerian hormone (AMH) test's result was 0.78 mkg/l. Husband was diagnosed with oligoastenoteratospermia (1x10 6 / ml) with type D sperm motility. The genetic tests on samples of blood revealed normal karyotype for woman (46, XX) and balanced chromosomal rearrangement for man (45, XY, der(13;14)(q10;q10)). After interdisciplinary medical team meeting the ICSI-TESA with PGD test was suggested. An ovarian simulation using antagonist protocol (GTH 300 IU/d) was started. Later 13 oocytes were aspirated and 6 out of 8 MII oocytes after ICSI were fertilised. For 4 morphologically good quality embryos PGD was performed. Only 1 genetically normal embryo was identified and transferred to a woman. After 2 weeks hCG was 80 IU/l and a week later the pregnancy was confirmed by ultrasound examination. Multiple fetal ultrasound examinations shown no abnormalities. Finally, a vaginal birth to a girl with gestational age of 38 weeks and 4 days and weight of 2820 g and Apgar score of 10 was given. The girl was born free of genetic abnormality detected in her father's genome.

Conclusions. Preimplantation genetic diagnosis allows to identify genetic abnormalities and select the genetically normal embryos to transfer. This couple was able to achieve pregnancy after 4 years of trying and give birth to a baby free of chromosomal abnormality detected in father's genome.

Eruptive xanthoma and hypertriglyceridemia: when skin lesions indicate underlying disorders

Author(s): Larissa Santiago de Freitas Federal University of Rio de Janeiro, Brazil Presenting author: Larissa Santiago de Freitas Tutor(s): Neise Aziz da Silva Guedes, Maria Auxiliadora Jeunon Sousa

INTRODUCTION

It is well known that many systemic diseases have dermatologic manifestations. Thus, each skin disorder may signalize a specific illness or its type. In this case, eruptive xanthoma, which consists in localized lipid deposits appearing as multiple small erythematous-yellow papules usually distributed on the extensor surfaces of the extremities, buttocks, and hands. Its diagnosis is important because it suggests underlying disorders such as diabetes mellitus, hypertriglyceridemia and hypothyroidism. Estrogen replacement and oral retinoid therapy can also contribute to eruptive xanthoma 's formation.

CASE REPORT

This study presents the case of a 40 year old male patient, who initially complained about erythematous-yellow papules on the back of his hands and heels. Five months after the lesions 'first appearance, he sought for a dermatology appointment, then being required laboratory tests and a skin biopsy of his left hand. The histopathological exam showed xanthomized histiocytes between dermal collagen bundles associated with inflammatory infiltrate of lymphocytes, histiocytes and neutrophils around superficial and deep vascular plexus. In addition to that, his blood tests also had significant alterations (blood glucose level 257 mg/dl, glycated hemoglobin 11%, triglycerides 3.820 mg/dl, total cholesterol 643 mg/dl, HDL cholesterol 27 mg/dl and 25-hydroxy vitamin D 16,7 ng/ml), such high triglyceride serum concentration made it impossible to measure the LDL and VLDL cholesterol levels. Selected treatment consisted in metformin 500 mg once a day, simvastatin 20 mg twice a day and cholecalciferol 50000 IU once a week. Besides medication use, patient was also instructed to attend a cardiologist, adopt a healthy diet and start low intensity exercise. After three months of medication adherence, eruptive xanthoma decreased and became less visible, even though the patient has not followed the other recommendations.

CONCLUSIONS

Xanthomas are consequences of a range of disorders that affect lipid metabolism, such as familial hypercholesterolemia and diabetes mellitus. Thereby, physicians should be capable of recognizing the often pathognomonic cutaneous findings in order to giver proper diagnosis and therapeutic approach, or refer the patient to a specialist. Some underlying disorders can be life threatening, and an early diagnosis could lead to a better prognosis. Besides medication use, a low fat diet and physical exercises are also benefic for lowering blood lipids levels and, consequently, improving eruptive xanthoma 's resolution.

Hereditary neuropathy with liability to pressure palsies: clinical case series

Author(s): Simona Naudžiūnaitė Vilnius University, Lithuania Presenting author: Simona Naudžiūnaitė Tutor(s): Birute Burnyte

Introduction. Hereditary neuropathy with liability to pressure palsies (HNPP) is an autosomal dominant inherited peripheral nerve damage. HNPP patients present painless, episodic, recurrent sensory and/or motor loss, usually triggered by minor physical trauma. Usually, the first onset of HNPP occurs in childhood or adolescence. Electrodiagnostic and genetic testing is essential to diagnose and evaluate HNPP: 93% of patients have an abnormally slow sensory nerve conduction velocity, 78% have prolonged distal motor latencies and about 80% of patients have a deletion of chromosome 17p11.2 that includes PMP22. This paper presents all new cases of HNPP, detected within a 5-year period at Vilnius University Santaros Klinikos.

Case report. The sample consists of seven patients: three men and four women. The mean age at onset of clinical presentation was 43 years (range: 17-74 years). Knowing that typically the first onset of HNPP commonly occurs in the second or third decade of life, was found that in four patients the first symptoms started before they turned 30. Family history of a neuropathy was found in two cases but only one of them had a positive family history before the HNPP diagnosis was established. Patients could be divided into three groups based on the clinical presentation of HNPP: the first group would consist of patients with classic symptoms and typical locations of lesion, the second with atypical symptoms, and the third group of asymptomatic patients or detected based on family history only. Just two patients (female) presented upper extremity weakness and indicated sensory loss. In addition, those two patients marked more pronounced lesions in the hands than in the legs. Sensory loss in the lower extremity was found in six cases, weakness was found in five of them. Hammer toe deformities and Friedreich 's feet (pes cavus) were observed in three patients. Most of the time the trigger was related to a heavy pressure or a trauma on a nerve. At the time of diagnosis, five cases had more than one nerve involved clinically. Finally, all patients had a genetically proven diagnosis of CMT1A deletion.

Conclusion. HNPP is a rare disease and can be under-diagnosed, particularly when there is no family history as was the case in this paper where only one case had a positive family history before the HNPP diagnosis was established. Patients can present with a wide spectrum of clinical findings and, in most cases, the neuropathy can be found after a minor compression or a physical exercise. A ll cases had a genetically proven diagnosis of CMT1A deletion.

Case Report: The psychiatric patient with Dissociative amnesia

Author(s): Jonas Žalimas Vilnius University, Lithuania Presenting author: Jonas Žalimas Tutor(s): Veronika Zalimiene

Introduction

Dissociative amnesia is the inability to remember important personal information. It could happen because of trauma or stress and may occur in the presence of personality disorders. We present a case report in which a patient was diagnosed with an organic personality disorder but during the hospitalization doctors understood it is dissociative amnesia. Interestingly, this disorder occurred as a result of the stress due to bigger press and television attention and all the news about the Covid-19 situation in the country and entire world.

Case report

A 69-year-old female arrived by ambulance to a psychiatric clinic because of the tremor in the area of the heart, increased heartbeat. According to the patient these symptom causes headaches and headaches can provoke a stroke.

During the collection of anamneses, it was found out a

fragmented thinking. During the interview with the doctor, the patient fell demonstratively on the floor, lay down for a few minutes and got up. Due to these symptoms, the patient was hospitalized after a preliminary diagnosis of organic personality disorder.

The patient was known for the hospital because she was treated several times in the psychiatric clinic for organic delirium disorder and organic hallucinosis. It was found out that the patient has been suffering from epilepsy for many years and was taking anti-epileptic medication. No pathology was observed in somatic status. Neurological condition without focal neurological symptomatology.

The patient was brought to bed in the ward. But she was motionless not responding to a doctor and not following instructors of the nurse. The next day she spoke eagerly, she was in a good mood, she said she had no recollection of what she was told yesterday. Also, the patient expressed fear that she might die due to a possible stroke or infection of Corona virus. After analyzing the medical history, the circumstances of the hospitalization and the medical history of earlier treatments, the main disease - Dissociative amnesia - was identified. Organic Personality Disorder. Epilepsy.

Conclusion

In this clinical case a stressogenic factor was identified. However, it was not realized that the diagnosis of epilepsy played an important role in the diagnosis of the disease which may have caused amnesia.

Diagnostic and surgical difficulties in insulinoma - a case report

Author(s): Małgorzata Matuszek, Michał Kaczor Ewa Obel Medical University of Lublin, Poland Presenting author: Małgorzata Matuszek Tutor(s): Beata Matyjaszek - Matuszek

Introduction: Insulinoma is a rare hormonally active neuroendocrine tumor (NET) origins from pancreas' beta cells, which is predominantly benign.

It usually occurs as an isolated tumor, but may be a component of MEN-1 syndrome. The clinical diagnosis is based on characteristic Whipple 's triad including an excessive insulin release with consecutive hypoglycaemia, that occurs during starvation and disappears after carbohydrates ingestion or intravenous glucose administration.

Case report: A 78 year-old patient was admitted to the Department of Endocrinology due to the multiple episodes of symptomatic hypoglycaemia (sweating, weakness, dizziness, fainting without loss of consciousness). Recurrent spontaneous glucose level reductions appeard at nights and in the mornings (glycaemia < 42 mg/dl) with inappropriate high insulin level (8 mU/l) that required intravenous glucose infusions. Clinical signs, typical laboratory tests and computed tomography confirmed the suspicion of pancreatic tumor. Despite the fact that the patient underwent enucleation of the lesion, hypoglycaemia episodes were still present. Postoperative endoscopy could not determine the final location of the tumor. The therapy with diazoxide was introduced. It stabilized and improved the patient 's condition.

Conclusions: The imaging methods in diagnosis of insulinoma

can be unreliable, therefore surgical treatment in this case was ineffective. Diazoxide is an alternative treatment. A multidisciplinary approach involving different medical teams is crucial for a quick diagnosis and effective treatment.

Takotsybo cardiomyopathy in a patient after a stressful event - case report.

Author(s): Aleksandrs Vasiljevs Rigas Stradiņš University, Latvia Presenting author: Aleksandrs Vasiljevs Tutor(s): Irena Kurcalte

Introduction: Takotsybo cardiomyopathy is a clinical syndrome characterized by acute and transient, less than 21 days, left ventricular systolic and diastolic dysfunction. Takotsybo cardiomyopathy is estimated to be in approximately 1-3 % of patients presenting with suspected STEMI.

About 90% of all Takotsybo cardiomyopathy patients are women with a mean age of 67-70 years. An identifiable emotionally or physically triggering event precipitates the syndrome in most cases. The most common symptoms of Takotsybo cardiomyopathy are acute chest pain, dyspnoea and syncope.

Case report:

Patient 89 years old female was hospitalized on 06.01.2018 after a house fire. She was hemodynamically stable. Blood pressure 153/80. Heart rate -125 x/min. Spontaneous breathing 25 x/min. SpO2 was 91% with additional oxygen. Comorbidities: Permanent atrial fibrillation, Chronic Heart failure NYHA stage 3. On 09.01.2018 she was discharged with good vital signs: BP-115/65, HR-90x/min., breathing spontaneously 16x/min., SpO2 - 96% with supplementary air. Mild high sensitive cardiac troponin T elevation - 9.83 ng/L. ECG showed Atrial fibrillation, without ST-T segment changes. On 17.01.2018 she visited a general practitioner where a control ECG was taken, which showed T wave inversion in Leads: 1,2,3, aVF, V2-V6. The patient denied any chest pain but was hospitalized with suspicion of an acute coronary syndrome. In-hospital blood samples were taken. High sensitive cardiac troponin T - 69,33 ng/L. 18.01 - 71.02 ng/L. 19.01 - 57,77 ng/L. The patient was hemodynamically stable. Coronarography was proposed, but the patient declined. 25.01 Echocardiography was performed, with the following findings: ejection fraction - 35%, systolic disfunction, akinesia in the left ventricle apical part, mitral regurgitation 3. grade. 28.03 Control Echocardiography was performed. Systolic function improved, ejection fraction - 55%, mild mitral regurgitation.

Conclusions: High sensitive cardiac troponin T was lower in this patient than it should be in case of acute coronary syndrome with a diffuse myocardial lesson. Brain natriuretic peptide (BNP) should be checked in these patients because Cardiac troponins may be elevated in both Takotsybo cardiomyopathy and acute coronary syndrome, but a combination of BNP acute elevation with a mild high sensitive cardiac troponin T elevation suggests Takotsybo cardiomyopathy.

If invasive coronarography is contraindicated, a CT coronarography could be used to exclude acute coronary syndrome.

Probably there are more Takotsybo cardiomyopathy patients that are identified at this moment. As seen in this example, the patient was practically asymptomatic and was diagnosed incidentally due to the control after hospitalization. Patients with mild symptoms might be interpreted as presenting with decompensation of the comorbidity, for this patient being chronic heart failure and permanent atrial fibrillation; due to that, no medical attention would be sought.

ECG transformation in patient after mitral valve reconstruction - case report.

Author(s): Dorota Kowalik Medical University of Novi Sad, Serbia Presenting author: Dorota Kowalik Tutor(s): Andrej Preveden

Introduction

Mitral regurgitation is vulvar heart disease causing backflow of the blood from left ventricle to left atrium due to incomplete closure of the mitral valve leaflets. Chronic mitral regurgitation causes gradual dilatation of the left atrium and slow increase in the pressure therefore symptoms develops gently over months to years. Management of mitral regurgitation includes medical therapy, surgical therapy or both.

Case report

An 70-year-old female was admitted to the hospital complaining of fatigue and dyspnea with chronic mitral regurgitation. The patient was qualified to triangular dissection of the P2 segment of the mitral valve and reconstruction of the mitral valve using Medtronic Future Ring. Before operation the patient electrocardiogram (ECG) demonstrated sinus rhythm and heart rate around 80 bpm. Immediately after the operation the patient was still in sinus rhythm, however her heart rate increased to 100 bpm and there were signs of first degree atrioventricular block. One day after the operation patient has developed second degree atrioventricular block with heart rate of 70 bpm. Five days after the operation patient's ECG transformed into third degree atrioventricular block with heart rate of 50 bpm. To treat the bradycardia in patient she was given temporary pacemaker. During 24 hour Holter monitoring complete atrioventricular block was recorded with atrial rate of 100 bpm and ventricular rate of 45 bpm. There was also intermittent activation of pacemaker. Due to unalterable third degree atrioventricular block patient was implanted permanent pacemaker DDDR. After 17 days from operation the patient was rhythmically stable and was discharged.

Discussion/Conclusions

Mitral valve repair is the treatment of choice in case of significant valvular regurgitation. However according to literature up to 23% of patients may develop postoperative atrioventricular blocks, including 4% with complete atrioventricular block . The following case shows it is of large importance to monitor in postoperative period the ECG changes which may transform into indication for pacemaker implantation.

Papillary thyroid carcinoma - interdisciplinary cooperation as a key to accurate diagnosis - case report

Author(s): Konrad Gładysz, Karol Chromiak Marcin Szydłowski, Piotr Kwiatkowski Medical University of Lublin, Poland Presenting author: Konrad Gładysz Tutor(s): Halina Piecewicz-Szczęsna

Introduction:

Among all thyroid malignancies, papillary cancer is the most popular histological type, accounting for about 50-85% of cases. It spreads mainly through lymphatic vessels, so it is not surprising that at the time of surgery metastases in regional lymph nodes are detected in 30-80% of patients. The clinical management is mainly based on invasive surgical treatment. However, it is not free from complications affecting the patient 's quality of life, such as temporary or permanent hypoparathyroidism or recurrent laryngeal nerve damage.

Case report:

The patient of 68 years of age reported for Emergency Department with symptoms of increasing dyspnea for two months, initially exercise-induced dyspnea, and in the last two weeks of resting inspiratory character. In the anamnesis he reported that he was diagnosed in an Endocrine Clinic because of a thyroid cyst and that he was treated for hypertension and type 2 diabetes. The patient associated his symptoms with a thin needle thyroid biopsy performed in him. The laryngological consultation showed magnification of the right lobe of the thyroid gland and the indirect laryngoscopy revealed a smooth surface lesion - significantly obstructing the tracheal lumen. The patient underwent bronchofiberoscopy in the pulmonology department and laryngoscopy and neck CT in the laryngology department. The examination showed a solid invasive lesion in the right part of the larynx and trachea. The man was qualified for tracheotomy with the collection of tracheal and right thyroid lobe fragments. The histopathological examination confirmed papillary thyroid cancer. The patient was discharged with a referral to the Institute of Oncology for further supplementary treatment.

Conclusions:

Clinical treatment of an oncological patient is a real diagnostic and therapeutic challenge. An accurate diagnosis is possible thanks to advanced research which can only be carried out with effective interdisciplinary cooperation of several specialists.

Young man with 2 mg/dl LDL cholesterol level - case report

Author(s): Marcelina Kądziela Uniwersytet Medyczny w Łodzi, Poland Presenting author: Marcelina Kądziela Tutor(s): Marlena Broncel, Paulina Gorzelak-Pabiś

Introduction:

Familial hypobetalipoproteinemia (FHBL) is an autosomal dominant disease characterized by mutations in APOB, extremely low LDL-cholesterol concentrations and plasma levels of apolipoprotein (apo) B.

Case report:

25-year-old asymptomatic man was referred to the Clinic due to abnormal lipidogram . The investigations relevaled very low level of LDL-C - 2 mg/dl, total cholesterol 74,3 mg/dl and trigl y cerides - 22,6 mg/dl. The patient had testing for anti-hcv antibodies and Hbs antigen which were negative. The patient 's 93 year old grandfather underwent a set of tests, and as it turned out also had a reduced LDL - 49 mg/dl.

Abdominal ultrasound showed slightly enlarged liver with a homogeneous clearly elevated echostructure. Cholesterol testing in lipoprotein fractions showed significantly reduced LDL-C, VLDL-C lower triglycerides and total cholesterol, Apolipoprotein B was $0.2~{\rm g/l}$ where the lower limit is $0.63~{\rm g/l}$. Hepatic elastography was also ordered, which confirmed hepatic steatosis.

In a new generation sequencing tests, a pathogenic variant was found in one APOB gene allele. APOB disorders are associated with familial hypobetalipoproteinemia, one gene allele mutation is sufficient to reveal disease symptoms.

Conclusions:

Familial hypobetalipoproteinemia is a very rare disease which should be considered in patients with very low LDL cholesterol level.

Stroke in patient with hemiplegic migraine

Author(s): Eglė Bacevičiūtė Vilnius University, Lithuania Presenting author: Eglė Bacevičiūtė Tutor(s): Kristina Ryliskiene

Introduction

Hemiplegic migraine (HM) is rare, caused by mutations in CACNA1A, ATP1A2, SCN1A or PRRT2 genes. The common consequence is the reduced threshold for cortical spreading depression (CSD), resulting in membrane permeability alterations, clinically evident as aura or hemiplegia. It is also considered to be a candidate mechanism increasing brain vulnerability to ischemia and contributing to the stroke risk. Here, a rare case of migrainous infarction for a patient with a long standing history of HM is reported.

Case report

A 60-year-old woman with no family history of migraine, had initial onset of HM in 2010 at the age of 51. Once in 2-3 months she had similar, rapidly progressing attacks: visual symptoms, replaced by fingers tingling on one side, and followed by severe headache, nausea, confusion, subfebrile fever. The complete recovery could take up to 7 days. In 2015, she experienced vertebrobasilar stroke, after which remained complain free until October 2016. Then 3 prolonged attacks, accompanied by febrile fever and hemiparesis, occurred. Triptans were no longer effective and each episode required hospital care. MRI revealed mild cerebral atrophy. In April 2017 another stroke was suspected, CT and CTA showed reduced temporal lobe perfusion. Significant deterioration was observed, but only after 2 months MRI revealed progressive ischaemic changes, predominantly in the left ICA territory. Genetic testing showed the mutation c.3521C>G. The patient was recommended to refrain from triptans, add acetazolamide and verapamil. Over the time, her condition and functions have significantly improved.

Conclusions

HM is a genetically heterogeneous condition, characterized by transient hemiparesis during aura. In the setting of a hyperexcitable brain, even mild perturbations might be severe, escalating into further downstream events such as ischemic lesions. The treatment is empirical and relies on the principles of management of the common types of migraine. The use of triptans is still being debated, while a more aggressive approach to the use of prophylactic medications may be recommended.

Diagnostic difficulties of chronic abdominal pain

Author(s): Stefania Włoczka, Paulina Śliwińska University of Opole, Poland Presenting author: Stefania Włoczka Tutor(s): Anna Rostropowicz- Honka

Introduction: I will present a case of a patient with chronic abdominal pain caused by critical narrowing of the superior mesenteric artery and, as a result, intestinal ischemia.

Case report: A 75- year- old patient with bronchial asthma, hypertension, cholecystectomy and gastroesophageal reflux was admitted to the internal medicine department on February 28, 2019 due to abdominal pain lasting for about 2 years and a significant weight loss. The pains appeared unrelated to food intake, they also occurred at night and were diffuse. Because of pain, the patient reported a decrease in appetite. No abnormalities were found in the laboratory tests. Abdominal ultrasound was normal. Gastroscopy and colonoscopy were performed, with erythematous gastropathy and numerous large sigmoid diverticula. Diagnostic were expanded to include CT of the abdominal cavity with contrast, where the widened common bile duct up to 17 mm was visualized, in the right iliac fossa there were individual bands with increased fat densitysuspected of inflammatory or inflammatory changes and calcification at the bottom of the uterus. Diagnostic were extended to MR biliary tract, as a result of which the presence of deposits was excluded. Due to suspicion of an appendic abscess, a surgical consultation was requested. The patient did not require surgical intervention and was discharged home in good general condition. Diverticular disease was considered to be the cause of the discomfort. The patient was under the care of a gastroenterology center, she was treated, among others mesalazine, rifaximin- no clear clinical improvement. A year later she was re- admitted to the ward due to persistent non-specific abdominal pain and further weight loss. Another CT scan was performed, in which, apart from previously described abnormalities, critical stenosis of the proximal visceral sections and the superior mesenteric artery was found. The patient underwent local anesthesia, arteriography of the visceral arteries from the left brachial artery, confirming the critical narrowing of the superior mesenteric artery. After the transition with the guide wire, percutaneous superior mesenteric angioplasty with a 6x19 mm stent was performed with a very good effect. The postoperative period went without any complications.

Conclusion: Diagnosis of abdominal pain is very difficult and can be long- lasting. The non- specificity of symptoms means that the correct diagnosis can be prolonged and sometimes requires the cooperation of several specialists. This applies especially to the elderly, with many aliments.

Rare simultaneous adrenal and pancreatic metastases from poorly differentiated thyroid carcinoma - a case report

Author(s): Paulina Filipowicz Medical University of Warsaw, Poland Presenting author: Paulina Filipowicz Tutor(s): Agnieszka Żyłka

Introduction

Poorly differentiated thyroid carcinoma (PDTC) is a rare malignant neoplasm deriving from follicular cells of the thyroid. PDTC may develop de novo or arise from differentiated thyroid carcinomas (DTC). Its aggressive clinical course with a tendency to recur locally and develop distant metastases, predominantly to lungs and bones, gives rise to the poor prognosis.

Case report

A 55-year-old man was admitted to the Department of Oncological Endocrinology and Nuclear Medicine due to the presence of a tumor in the right thyroid lobe with 65 mm in diameter in the ultrasound scan. Fine needle aspiration biopsy showed Bethesda category V lesion leading to a preliminary diagnosis of the oxyphilic tumor . The patient underwent a right lobectomy with isthmusectomy and central compartment lymph node dissection. Histopathological examination revealed poorly differentiated thyroid carcinoma (stage pT3N0) with muscle infiltration and extensive necrosis. Subsequent USG performed 3 months later showed a hypoechoic lesion in the left thyroid lobe, which was consequently removed. Three foci present in the specimen were classified as the oncocytic variant of papillary thyroid carcinoma, stage pT1aN0. A supplementary abdominal MRI with contrast revealed 2 focal lesions in the pancreas and a tumor in the left adrenal gland. After recovery from surgery, the patient underwent 131 I radioiodine therapy (activity: 3,7 GBq) in rhTSH stimulation followed by post-therapeutic whole-body scintigraphy, which was positive only within the neck despite positive abdominal MRI. The patient had hypertension; however, biochemical tests did not confirm the presence of a pheochromocytoma. Doxazosin was administered prior to the subsequent surgery. 18 F-FDG PET/CT scan was performed for further diagnostics. After left adrenalectomy and distal pancreatectomy with splenectomy, previously observed lesions were identified in the histopathological examination as metastases from the thyroid cancer.

Conclusions

Diagnostic and therapeutic process in case of PDTC can be challenging due to its distinct clinical and pathological features. At present scintigraphy is a common diagnostic method, however, impaired radioiodine uptake may result in false-negative results indicating the need for additional imaging studies. Moreover, owing to an aggressive character of PDTC, the diagnosis is established often in an advanced stage. The presented case demonstrates the possibility of distant metastases to exceptionally rare sites - adrenal gland and pancreas, which should be taken into consideration to ascertain a proper diagnosis.

Cutaneous fistula as a rare complication of cholelithiasis - 2 Case Reports Series

Author(s): Zuzanna Żak, Carlo Bieńkowski Weronika Lewandowska Medical University of Warsaw, Poland Presenting author: Zuzanna Żak Tutor(s): Carlo Bieńkowski

Introduction:

Cholelithiasis affects 10% of the population. Complications, although uncommon, sometimes occur in various forms such as acute pancreatitis, cholangitis, and intestinal or skin fistulas.

Case reports:

1.

On May 27, 2019, an 80-year-old woman was admitted to the Surgery Department of the Hospital in Minsk Mazowiecki due to a skin fistula in the upper-right part of the abdomen that had been sustained for 2 months with bleeding. Interview revealed hypertension, type 2 diabetes and dementia. Four months before admission, the right subcostal region was injured. The laboratory tests showed elevated inflammatory markers. The abdominal CT revealed a follicular fistula or fistula from an evacuating hematoma. The general condition of the patient worsened and after the conservative treatment there was no improvement. As a result, the patient agreed to the surgery, which was performed on June 6, 2019. The presence of cutaneous fistula in the course of chronic cholelithiasis was confirmed intraoperatively. After the surgery the patient was in a good general condition, without postoperative complications, she was discharged on August 9, 2019.

2.

On September 23, 2019, a 69-year-old woman was admitted to the same Department due to a cutaneous fistula in the middle abdomen. The patient was admitted in a good general condition, without fever, without emesis and with normal peristalsis. The interview revealed leakage of intestinal contents around the right iliac fossa for about 5 days, no symptoms of bile colic. She was chronically treated for hypertension. During physical examination of the abdomen, it was painless, without hepatosplenomegaly with only little tenderness in the right iliac fossa. Laboratory tests showed anemia (Hb = 7.5 mg/dL, [N: 11-15 mg/dL]) and high inflammatory markers. In the abdominal CT cutaneous fistula, gallbladder deposits up to 35 mm were present. On September 24, 2019, cholecystectomy and fistula excision were performed. After the procedure, the patient was in a severe, deteriorating condition. No improvement after conservative treatment. The following day at 7:35 a.m. the patient died.

Conclusions:

Asymptomatic cholelithiasis is possible and can lead to serious complications such as skin fistulas that may lead to death. Early diagnosis and ultrasound screening of the abdominal cavity are necessary. Despite serious complications that pose a threat to life, full recovery is possible.

Inflammatory bowel disease and/or rectal syphilis

Author(s): Eglė Lukošiūtė Vilnius University, Lithuania Presenting author: Eglė Lukošiūtė Tutor(s): Ieva Stundiene

Introduction

The diagnosis of inflammatory bowel disease (IBD) is often difficult because the clinical symptoms, endoscopic examination and biopsy material may not contain pathognomonic features, making distinction between Crohn's disease, ulcerative colitis and other forms of colitis a true challenge. This case report presents a rare case of a homosexual man with rectal syphilis, chlamydiosis and possible IBD.

Case report

A 37-year-old man presented to proctologist with a 2-month history of anal discomfort, bleeding and proctalgia. During digital rectum examination a heavily bleeding tumour-like lesion was detected.

A pan-colonoscopy was performed. Biopsies were taken from rectal circular hyperplastic ulcerated tissues in a healthy mucous background with few ulcers at rectosigmoid junction. Histological examination showed non-specific inflammatory reaction with mild tissue structural damage and plasmacytosis. These changes suggested possible IBD, thus azathioprine with mesalamine was also prescribed. However, during second gastroenterologist consultation, further questioning revealed an episode of rectal intercourse and possible rectal syphilis was suggested. Treponema pallidum enzyme immunoassay was found positive, along with positive PCR for Chlamy-dia trachomatis. Treatment with penicillin was ineffective, while doxycycline reduced patient's proctalgia and the bleeding was no longer observed. However, defectation with mucous up to 6 times a day and a newly formed perianal fistula was present. Subsequent MRI enterography showed middle jejunal loop wall thickening, proctitis and the path of perianal fistula. Based on these changes and patient's complaints, treatment with Adalimumab for suspected Crohn's disease was initiated.

Conclusions

It is important to consider sexually transmitted diseases in all patients presenting with rectal and IBD-like symptoms. Our case represents a diagnostic pitfall done in the diagnosis of IBD, where patient's sexual history was unassessed and the serologic exclusion of syphilis was not performed before the start of immunosuppressive treatment. However, exclusion of multiple aetiologies in the aforementioned case report is challenging and the existence of overlapping diseases can be considered.

A rare case of Intraductal Papillary Mucinous Neoplasm

Author(s): Vismantas Gritėnas Vilnius University, Lithuania Presenting author: Vismantas Gritėnas Tutor(s): Marius Paskonis

Background

Intraductal papillary mucinous neoplasms (IPMNs)

are potentially malignant intraductal epithelial neoplasms that are grossly visible (typically >10 mm) and are composed of mucin-producing columnar c ells. IPMNs may involve the main pancreatic duct, the branch ducts, or both. Whereas patients with branch-duct lesions are at lower risk for developing malignancy (approximately 20 percent at 10 years), patients with IPMNs involving the main duct are at high risk (approximately 70 percent). However, in this rare case of IPMN, it originated in Common Bile Duct (CBD), where most of the time adenocarcinomas are diagnosed.

Case

87-year-old male presented with yellowish scleras and complaints of weight loss. Ultrasonoscopy revealed gallstones, which were removed by lithotomy. However, during the operation intraductal masses were observed. Therefore, afterwards CBD stented, to maintain bile flow. A biopsy identified an adenocarcinoma of the bile duct. A few weeks later, the stent got stuck, the patient was admitted to the hospital to remove the stent. Afterwards MRI was done in order to deterimine the stage of the disease, concluding a Bismuth-Corlette I o tumor. After this assessment that a surgical removal of the tumor and regional lymph nodes is possible, which were completed without compliations. However, a surprising result by the pathologists, who studied removed tumour revealed that this is in fact not an adenocarcinoma, but a very rare case of IPMN occurring in CBD with only reactive lymphadenopathy and a much better prognosis than expected.

Conclusions

IPMNs are tumors of pancreatic ducts, however this clinical case demonstrates a very rare shift in diagnosis after whole tumor resection was done and histopathological examination revealed a very uncommon case of IPMN in the CBD and therefore changing the prognosis of a patient for the better.

Adult-onset Still's disease (AOSD) - a diagnostic challenge: case report

Author(s): Weronika Przybyszewska Medical University of Warsaw, Poland Presenting author: Weronika Przybyszewska Tutor(s): Piotr Geisler

Introduction: AOSD is a rare inflammatory disease of unknown etiology. The most typical symptoms of AOSD include evanescent rash, arthritis and quotidian fever but clinical course may significantly vary among patients. AOSD is considered as a diagnosis of exclusion - it should be made based on the Yamaguchi or Fautrel criteria but requires excluding infectious, malignant, and other connective tissue diseases.

Case report: In October 2019 a 36-year old woman was admitted to the hospital because of generalized maculopapular rash, fever, arthralgia, malaise, cervical lymphadenopathy and sore throat. As wide-range antibiotics were ineffective, the patient was transferred to the Department of Rheumatology of Military Institute of Medicine. Due to high levels of CRP and hepatic transaminases patient was started on oral glucocorticosteroids (GCS) and intravenous immunoglobulins (IVIg), but without significant improvement. Laboratory tests revealed very high levels of serum ferritin, while antinuclear antibodies were absent. After exclusion of neuroinfection and infective endocarditis, a preliminary diagnosis of ASD was suggested and treatment with intravenous (followed by oral) GCS and cyclosporine (CsA) was started. The patient was readmitted to the hospital 3 weeks later because of persisting fever and treatment side-effects. CsA was stopped and the patient was restarted with IVIg. Few days later patient developed generalized lymphadenopathy. The PET CT scan was performed and revealed increased metabolism in lymph nodes and spleen. However, histopathologic examination ruled out lymphoproliferative process. Therefore, as the patient met the Yamaguchi criteria, the diagnosis of AOSD was confirmed. Treatment with steroids was continued and, as IVIg were inefficient, intravenous cyclophosphamide was started which led to complete resolution of symptoms.

Conclusions: Although AOSD is a relatively rare auto-inflammatory disease it should be taken into account in a differential diagnosis of patients suffering from fever of unknown origin, especially if it is accompanied by skin rash and arthralgia/arthritis.

A rare case of multifocal papillary thyroid cancer and undifferentiated follicular tumor in a 62-year old patient.

Author(s): Weronika Przybyszewska Medical University of Warsaw, Poland Presenting author: Weronika Przybyszewska

Tutor(s): Agnieszka Żyłka

Introduction: Thyroid cancer is the most common endocrine malignancy and among various types papillary thyroid cancer (PTC) acounts for majority of cases. Rare histopathological variant of PTC - the hobnail occurs in about 1% of all PTC cases. Simultaneous occurrence of different types of thyroid cancer is a rare event and poses a significant diagnostic challenge.

Case report: In March 2018 a 61-year old woman presented to Marie Curie Institute in Warsaw for diagnosis of suspicious nodule in the multinodular goitre. Fine Needle Aspiration (FNA) performed earlier suggested the diagnosis of medullary thyroid cancer (MTC). On presentation, the patient did not experience any symptoms and calcitonin level was within normal range. Second FNA of the mass in the right lobe was performed and did not confirm the preliminary diagnosis. The biopsy was classified as Category V Bethesda and revealed bifocal thyroid cancer with microscopic features of both PTC and MTC, but with a greater probability of PTC. A total thyroidectomy with central lymph nodes dissection was conducted in June 2018 without any complications. Histopathology results of the tumor revealed a complex combination of histological findings. Two different solid mases in the right lobe (both about 1,5 cm in a greatest dimension) were described, both of which were consistent with the diagnosis of multifocal PTC, however in two different variants: hobnail cell and conventional. Both showed signs of capsular and muscle infiltration with desmoplastic reaction, so the classification of the tumor was pT3b, N0, R1. In the left lobe well differentiated follicular tumor of uncertain malignancy potential (5 cm) was found. This tumor did not present any signs of angioinvasion or capsular infiltration. Lymph nodes did not show any signs of metastases. In August 2018 the patient underwent scintigraphy, which did not reveal any metastases and then was treated with radioactive iodine 3.7 GBq. On the follow up one year after the surgery the patient did not present any signs of cancer recurrence in scintigraphy.

Conclusions: It is an interesting example of simultaneous occurrence of different histological types of thyroid abnormalities. Not only did the patient develop concurrent PTC and follicular tumor, but also presented a rare variant of the PTC, which tends to present aggressive behavior and poor prognosis. It is also worth noting that despite the undeniable usefulness of FNA in the diagnosis of thyroid pathologies, it is not infallible.

MYOCARDIAL CONTUSION IN BOXING RING: EMERGENCY INVESTIGATION AND DIAGNOSIS

Author(s): Audre Alonderyte Vilnius University Faculty of Medicine, Lithuania Presenting author: Audre Alonderyte Tutor(s): Pranas Serpytis

Introduction: In the presence of blunt chest trauma (BCT) it is important to differentiate between serious cardiac injuries. Myocardial contusion can mimic myocardial infarction. In order to understand underlying mechanism, admission in hospital and observation with work-up is needed.

Case report : 40 years old Caucasian male committed to the hospital after a chest trauma in Boxing ring. After a punch into the chest, the patient felt shortness of breath, chest pain and weakness. There was no loss of consciousness. In the absence of improvement, ambulance has arrived and registered wide QRS complex tachycardia (heart rate (HR) 260 beats/min, blood pressure (BP) 40/20 mmHg). However, no medication was given. While carrying the patient in to the ambulance car all complaints (duration 20-30 min) have been gone. ECG was repeated: atrial fibrillation, HR 103 beats/min, BP 90/50 mmHg. Patient was transported to the hospital. After admission to the hospital coronary angiography was performed, epicardial arteries were normal. Chest X-ray came back normal without any infiltration. Echocardiography showed enlargement of both atria and preserved ejection fraction (EF): >55%. Blood test: LDL: 2,06 mmol/l (2,6-3,5), AST: 82 U/l (<=40), CK creatinine kinase: 781 U/L (25-195), troponin-I: 20 445 ng/l (<=35), myoglobin: 273,8 ug/l (<155), D-dimers: 205 ug/L (<250). ECG: atrial fibrillation, HR 114 beats/min, ST depression in I, II, III, aVF, V3-V6. Because of atrial fibrillation transesophageal echocardiography (TEE) was made. TEE showed enlargement of right ventricle and right atria. No clots were found. After cardioversion, cardiac magnetic resonance tomography was made. In the left atria posterior-lateral midmyocardium late enhancement of contrast was seen, minimal local myocardial edema. EF left ventricle - 60%, EF right ventricle 50%.

Conclusion: Myocardial contusion can present with ST depression, ventricular tachycardia, atrial arrythmias which can be similar to myocardial infarction. These patients must be thoroughly investigated in order to determine right diagnosis, choose appropriate treatment and distinguish from significant cardiac injury.

Keywords: myocardial contusion, blunt chest trauma, ventricular tachycardia

Primary Cardiac Sarcoma - as Deadly as It Is Rare

Author(s): Evaldas Kauzonas Vilnius University, Lithuania Presenting author: Evaldas Kauzonas Tutor(s): Gieius Zukovas

BACKGROUND

Primary malignant cardiac tumours are an exceedingly rare and dangerous group of cancers, in most cases leading to death within 6 months after initial symptom presentation. Each case poses a unique challenge, as no standardised practice guidelines have been developed due to their sheer rarity. Treatment is further impeded by the unique challenges of cardiac surgery and growth characteristics of the tumours. In light of such challenges, new treatment modalities, are being developed to aid the treatment of such difficult, yet usually young, patients.

CASE REPORT

A previously cardiologically healthy 48-year-old female arrived with sudden dyspnoea, chest pain, and cardiac palpitations. She was diagnosed with undifferentiated pleomorphic cardiac sarcoma stretching from the top part of the left atrium into the left ventricle. At the time of writing 3,5 years post-diagnosis and having gone through two tumour resection operations along with adjuvant therapy, the patient has already gone above and beyond the dire survival rates described in literature, indicating a successful choice of treatment methods.

CONCLUSIONS

Regardless of such individual success stories, a great need for advances within the field of primary cardiac tumour treatment remains, as most patients are relatively young at the time of diagnosis and prognosis is almost universally dire. While, despite its undeniable difficulty and requirement of great surgical expertise, surgical tumour resection, accompanied by chemoradiotherapy, remains the primary treatment modality, continuous progress in the field can be seen in the development of such treatment methods as the use of targeted therapy, oncolytic viruses, and tumour genome sequencing.

A rare case of a patient with cerebellar ataxia.

Author(s): Sofija Antoniuk , Klaudia Adamczewska Martyna Bień Medical University of Silesia, Poland Presenting author: Sofija Antoniuk Tutor(s): Joanna Siuda

Small-cell lung carcinoma (SCLC) is a malignant cancer of neuroendocrine origin that is associated with smoking.

56 year old SCLC patient after 3 cycles of chemotherapy, has been admitted to the Neurology Department with dizziness and double-vision that has been worsening for the past couple months. Medical history also showing type II Diabetes, neuroborreliosis, coronary arteries stents. Patient admitted to smoking in the past, currently negates. Neurological examination: cerebellar ataxia (positive Romberg's test, walking gait with a wide stance, impaired balance, lower limbs ataxia), right eye abducens nerve palsy with diplopia, deafness, taste impairment. Basic laboratory tests showed no significant deviations. Wide range of laboratory tests were also performed: anticardiolipin antibodies, COMBI test (antimitochondrial, anti smooth muscle, anti microsomes of kidneys and liver antibodies), dsDNA test, ANCA, Borrelia burgdorferi and HCV antibodies - negative; ANA antibodies in grained fluorescence - titre of 1:3200. Panel of diagnostic was extended to paraneoplastic syndromes (antineuronal antibodies: anti-Hu, Yo, Ri, MAG, GAD) - negative. Anti-NMDA antibodies (autoimmune encephalitis) also turned out negative. However the cerebro-spinal fluid test showed increased lymphocytic pleocytosis, increased protein, glucose and lactate concentrations. Oligoclonal bands were also present. Electroencephalography showed disorders in basic activity with the presence of multiple lesions. Cerebellar MRI in T2 sequence showed hyperintensive lesions, possibly degenerative or multi-infarct, in both hemispheres seen as striped changes in frontal part of left hemisphere and fronto-basal part of right hemisphere as well as within middle peduncule. Also smaller lesions medially, close to IV ventricle, without enhancing, with contrast. Taking into account patients' medical history, clinical picture and test results, paraneoplastic cerebellar degeneration was diagnosed.

SCLC is a type of cancer that is often accompanied by paraneoplastic syndromes, which are a group of clinical conditions connected to cancers but are not an immediate sequence of tumor invasion or metastasis. What is important is that they can be the first symptoms of the disease, which can facilitate faster detection, which in turn gives the possibility of treatment, as well as increasing the patient's quality of life. Paraneoplastic cerebellar degeneration in men is often associated with lung cancer and in women with ovary and breast cancers. With sudden appearance of neurological symptoms, it is essential to take into account possibility of secondary to neoplasm involvement of nervous system in patients with cancer.

Acute coronary syndrome - difficult clinical decisions in patient with newly identified kidney failure.

Author(s): Monika Nędzi Medical University of Warsaw, Poland Presenting author: Monika Nędzi Tutor(s): Andrzej Łabyk

Introduction:

Acute coronary syndrome (ASC) with ST segment elevation or high risk group without ST segment elevation, as life-threatening condition is urgent indication for coronary angiography (CA) and/or percutaneous coronary intervention (PCI). However, diagnostic process of ACS in patients with kidney failure is especially difficult and time-consuming due to lower

specificity of troponin concentration in these group of patients. Additionally, the endovascular procedures are associated with higher risk of complications in this group.

Case report:

56-years-old truck driver with the history of hypertension and nicotinism was admitted to Emergency Department due to ten-days upper respiratory tract infection and malaise. Physical examination revealed: sallow skin, dry rales in lung fields, clubbed fingers. In the laboratory test CRP, WBC was increased and chest CT scan showed right-side pneumonia. Moreover, increased creatinine and urea concentration indicated newly identified kidney failure.

ECG tracing showed sinus rhythm with RBBB (right bundle branch block) and ST elevations V1 - V3 leads. The troponin level was extremely high (>10, N=0,014). The Point-of-Care Cardiac Ultrasound did not revealed any significant abnormalities, ejection fraction of left ventricle was described as good. Patient did not complain of chest pain or dyspnoea and was hemodynamically stable (HR=95, BP 120/70). Taking into account the whole clinical picture, the first decision was to transfer the patient to Dialysis Unit. Afterwards, CA was performed and showed significant and critical lesions in bifurcation of left anterior descending (LAD) artery and diagonal branch (DB), with no thrombus and TIMI 3 flow. Decision was made to perform complex PCI. Four stents (DES) were implanted (3 to LAD and 1 to DB in modified T-and-protrusion technique) with good result. Surprisingly, After PCI transthoracic echocardiography showed akinesis of apex on 4CH View - potential post-myocardial infarction scar evidence. Post-PCI ECG tracing showed incomplete RBBB with persistent ST segment elevation in V1-V3 leads. PCI with DES in right coronary artery as second stage procedure was made 3 days later. After 7 days hospitalization in Cardiology Unit, the patient was transfer to Nephrology Clinic in order to diagnose causes of kidney disease diagnosis.

Conclusions:

The appropriate management of patients with ACS and renal failure poses a challenge to clinicians due to the difficulties in characterizing the risks and benefits of medical therapies. Interpretation of the laboratory results. ECG and echocardiography is problematic and have significant impact on therapeutic decisions. The key factor in diagnostic process is the interpretation of those results, taking into account the whole clinical presentation of the patient.

INCLUSION BODY MYOSITIS: DIAGNOSTIC CHALLENGES OF A RARE DISEASE

Author(s): Audre Alonderyte Vilnius University Faculty of Medicine, Lithuania Presenting author: Audre Alonderyte Tutor(s): Irena Butrimiene

Introduction: Inclusion body myositis (IBM) is a rare disease that affects patients older than age 50. The main symptom of this disease is muscle weakness and because of its indolent course, IBM evolves gradually unnoticed. In the absence of specific symptoms and nonspecific electromyography (EMG) findings IBM is difficult to diagnose and distinguish from other inflammatory myopathies.

Case report: 62 years old Caucasian man presented with muscle weakness while climbing stairs, difficulties to stand up from sitting position, difficulties to lift heavier things with both hands. Although, the patient does not indicate any pain. T hese symptoms the patient relates to coronary artery bypass surgery (in 2015) and they began to worsen 2 years ago. During physical examination, he was noted to have atrophy in the shoulder, back and thighs muscles. In addition to this, neck movements were limited. The patient has a "question mark" posture. Creatinine kinasis (CK) levels at first examination were 1165 U/l. Electroneurography (ENG): lower limb motor nerve axonopathy. Electromyography (EMG): Active denervation with chronic reinnervation in legs muscles. M. vastus medialis sinister has myopathic changes. Immunological testing and test for Pompe disease were negative. Serum protein electrophoresis and immunofixation without any significant changes. Muscle biopsy from the right forearm showed inclusion body myositis. After the results, the patient was administered Methylprednisolone 16 mg and Methotrexate 15 mg.

Conclusion: IBM is frequently misdiagnosed because of its nonspecific course with an average delay to diagnosis of 6 years. It can be suspected in a patient with painless muscle weakness and elevated CK levels. Muscle biopsy is essential for diagnosis. At this time no medication is effective, although some patients respond to steroids and immunosuppressants for a short period of time.

Susac syndrome - case report

Author(s): Aleksandra Porzucek, Jakub Niziołek Justyna Żyga, Julia Perlak Medical University in Lublin, Poland Presenting author: Aleksandra Porzucek Tutor(s): Anna Drelich-Zbroja, Maciej Szmygin

Background: Susac Syndrome is a rare, autoimmune microangiopa thy which affects precapillary arterioles of the brain, retina and inner ear. It typically occures in middle-aged women and usually has a monophasic and self-limiting process. Susac syndrome is characterized by the triad of symptoms: encephalopathy, branch retinal artery occlusion and hearing loss.

Case Report: 24-years old patient was admitted to the Neurological Department with suspicion of multiple sclerosis.

He was hospitalized in 2010 because of numbness of tongue and left side of the face. Moreover, he had paraesthesia of fingers in left hand and left side of the trunk. There were no pathological lesions in CT, angioMR, MR and EEG from that period.

Currently, during neurological examination, bilateral sensorineural hearing loss and hemianopsia were detected. The patient had MR examination, which disclosed multiple rounded hyperintense lesions in T2 and FLAIR sequences. They had a diameter about 1,4-1,8 mm and were localized in cerebral cortex on the border with subarachnoid space, in cerebellar hemispheres and corpus callosum. There was no contrast enhancement. Morfology of lesions was not typical for multiple sclerosis. Based on MR examination result and clinical features Susac Syndrome was diagnosed. The patient started glucocortycoid therapy.

Conclusions: Multifocal central nervous system damage often indicates multiple sclerosis. During differential diagnosis Susac Syndrome should be considered. Diagnosis is possible on the basis of triad of symptoms and MR examination which shows characteristic lesions.

Curative lobectomy in a patient with pulmonary arteriovenous fistula

Author(s): Zuzanna Żychowicz, Filip Karuga Magdalena Rogut Medical University of Lodz, Poland Presenting author: Zuzanna Żychowicz Tutor(s): Piotr Białasiewicz, Agata Gabryelska

Introduction:

Pulmonary arteriovenous fistula (PAVF) is a rare disorder characterized by the presence of an abnormal, non-capillary vessel connecting pulmonary arteries and veins. In 80% of cases, this disorder is reported to be congenital and 70% of all cases are associated with hereditary hemorrhagic telangiectasia. Secondary PAVF can be induced by various factors, such as trauma, infection, systemic amyloidosis, or mitral stenosis. More than half of the pati ents with PAVF are asymptomatic. The most serious complication of PAVF can be paradoxical embolization and therefore even in case of small fistulas the treatment is warranted. Pulmonary angiography is considered the gold standard for the diagnosis of PAVF. Treatment includes embolization or surgery.

Case study:

A 26-year-old male was admitted to a cardio-surgery clinic due to complaint of feeling dyspneic upon exertion. Laboratory tests revealed hypoxemia with chronic respiratory alkalosis and polycythemia, alongside with signs of peripheral cyanosis and digital clubbing. Patient's family history of arteriovenous malformations or telangiectasia was negative. In echocardiography, a type 2 minor atrial septum defect (ASD) with a left-to-right shunt was found, alongside mitral valve prolapse and preserved ejection fraction of 60%. Since these findings did not explain his complaints or abnormal test results, lung scintigraphy was suggested upon discharge.

At the Sleep and Respiratory Disorders Centre additional tests were performed. In bodypletysmography, carbon monoxide diffusion capacity (DLCO) was decreased.

Later, the patient was readmitted to a hospital in order to underg o lung scintigraphy, which revealed lack of perfusion of 10 th segment of the right lung. Chest radiography in a PA projection revealed a semi-circular shade at the Th12-L1 level in the right paravertebral line with the dimensions of 4.5x3.0 cm, not visible in the lateral projection. Based on the gathered evidence, PAVF was suspected. Decision was made to perform right anterolateral thoracotomy and right lower lobectomy, which were uneventful.

One month after the surgery, tests revealed normalization of arterial blood gas parameters. Three months later a follow-up DLCO was performed and results showed a significant improvement.

Conclusions:

Isolated PAVF, without family history of arteriovenous malformations or teleangiectasia, poses a diagnostic challenge, which was the case in our patient. Right-to-left cardiac shunt, being more common disorder, should be addressed first. Having ruled out this pathology PAVF should be considered. The diagnosis in our patient was based on indirect evidence: chest X-rays and pulmonary scintigraphy. Paradoxically, lobectomy resulting in lower lung volumes, significantly improved gas exchange and reversed chronic hypoxemia and polycythemia .

Successfully treated isolated central nervous system relapse in patient with primary mediastinal large B-cell lymphoma in complete remission achieved with Rituximab-based chemotherapy - a case report

Author(s): Karol Miklusiak, Magdalena Kamińska Jagiellonian University Medical College, Poland Presenting author: Karol Miklusiak Tutor(s): Agnieszka Giza, Tomasz Sacha Elżbieta Szczepanek

BACKGROUND

Central nervous system (CNS) relapse in patients with primary mediastinal large B-cell lymphoma (PMBCL) occurs in 2% of patients receiving Rituximab-based chemotherapy and is usually characterized with a dismal prognosis. We report a case of successfully treated isolated CNS recurrence of PMBCL after a complete remission remission achieved with Rituximab-based chemotherapy.

CASE REPORT

Underlying disease

A 17 years old woman was admitted to the Hematology Department with 2 months history of progressively increasing cough, chest pain and fever. The CT scan showed pathological mass in mediastinum infiltrating the left lung. Mediastinal biopsy of lymph nodes revealed large B cell lymphoma. The patient was classified on the Ann Arbor staging as IVB, IPI score 3/4. Pretreatment with corticosteroids followed by 8 cycles of R-CHOP-14 chemotherapy assisted by G-CSF treatment were administrated. Mediastinal radiation therapy was performed, finished six months from diagnosis with complete remission.

CNS relapse

Two months later the patient presented with morning headaches and strong, painful right torticollis. A cranial CT scan showed a right frontal hyperdense mass. After the stereotactic biopsy PMBCL relapse was diagnosed. The patient commenced R-MA/IVAC protocol with CNS-penetrating doses and stem cells CD34+ mobilization. Good treatment response was consolidated by

high-dose therapy with thiotepa and auto-HSCT. Post-treatment CT scan showed almost total reduction of the pathological mass. CR was confirmed.

Last follow-up

At the last follow-up visit (7 years after diagnosis) the patient was in good general condition, without symptoms, works and learns actively. The previously described changes were not visible in the current CT scan. The relapse of the underlying process was not revealed.

CONCLUSION

CNS relapse of PMBCL are rare, but most often associated with dismal prognosis. However, the recovery and achievement of complete remission are possible. Further research should concentrate on identifying prognostic factors for CNS relapse and on the need for CNS-oriented baseline staging.

KEYWORDS PMBCL; lymphoma; CNS relapse; R-CHOP-14 treatment

Delayed diagnosis of Lyme borreliosis

Author(s): Milda Peciulyte Vilnius university, Lithuania Presenting author: Milda Peciulyte Tutor(s): Daiva Radzisauskiene

Introduction

Lyme borreliosis (LB) is a common tick-borne infection in Europe. It can damage the central nervous system in 10 to 15% of cases. Facial nerve palsy is the most common presentation of neuroborreliosis (NB). Neurological symptoms may be only presentation of LB, which makes the diagnosis challenging. In this case report, we present 2 similar cases of LB manifesting in facial nerve palsy.

Case report

Patient No.1: A 41-year old man with facial nerve palsy was admitted to the emergency department. Physical examination revealed palsy of the left side of his face, horizontal nystagmus, decreased strength of the left leg (2p), inability to stand in Romberg's pose and impaired senses in the region from Th8 to Th10 vertebra. Computer tomography of the head showed no changes. Anamnestic data revealed that he had a fever (39 0 C) for 3 days 3 weeks ago. Since then the patient felt severe pain of the back, especially in the left lumbar area. After one week of the back pain, a patient was consulted by the neurologist. Then conservative treatment with NSAIDs, myorelaxants, and gabapentin was initiated. Unfortunately, this treatment was not effective. Patient did not notice tick bite or erythema migrans. As mentioned above, when facial nerve palsy appeared, the patient was admitted to the emergency department. Based on clinical data and anamnesis neuro infection was suspected and a patient was hospitalized in the department of infectious diseases. Laboratory tests revealed LB. During the course of treatment with ceftriaxone, NSAID's and exercise his condition has improved.

Patient No.2: A 65-year-old man sought medical help due to the impairment of the right side of the face, general weakness, dizziness. Physical examination revealed palsy of the right side of his face, lagophthalmos of the right side, inaccurate nose-finger test, inability to stand in Romberg's pose, stronger reflexes on the right side and ataxia. Anamnestic data revealed that the patients did not notice tick bite or erythema migrans. The symptoms have started 3 weeks ago - he felt general weakness, the pain of the back. This patient was also consulted by the neurologist and only ambulatory consultation was recommended. When palsy of the right side appeared, he was hospitalized in the department of infectious diseases. Laboratory tests revealed LB. Treatment with ceftriaxone, NSAID's and exercise was initiated, and his condition has improved.

Conclusions

This case report suggests that the diagnosis of NB has to be considered when a patient with any neurological symptoms presents, despite the absence of tick bite or erythema migrans history, because we live in the endemic area. Early diagnosis and proper treatment may help to avoid disability and improve the ability of the patient to work. Therefore, it is essential to inform health care specialists about the rare and atypical forms of LB.

How crucial is a cooperation between medical specialists and patients with coexisting mental and somatic disorders?

Author(s): Katarzyna Dudzic, Klaudia Adamczewska Martyna Bień Medical University of Silesia, Poland Presenting author: Katarzyna Dudzic Tutor(s): Krzysztof Krysta

Introduction:

In the treatment of patients with mental disorders, the management of coexisting somatic disorders poses additional difficulties. The paper presents a case of a patient diagnosed with schizophrenia, as well as with cardiac arrhythmia.

Case description:

A 65-year-old patient chronically ill from schizophrenia was admitted to hospital due to the exacerbation of the disease. Besides, he has a history of alcohol addiction that he consumed excessively before admission, presumably at the same time discontinuing psychiatric drugs, to which he has repeatedly admitted in the past.

The onset of the disease developed at the age of 23 with psychotic symptoms in the form of auditory hallucinations and delusional interpretation of reality. In the same year, a diagnosis of schizophrenia was made, and drugs such as perazine, haloperidol, and diazepam were included in treatment. Yet after the first hospitalization patient did not comply with recommendations by taking haloperidol in a lower dose than it was prescribed to him which resulted in rehospitalization for several months.

Further, apart from positive symptoms of schizophrenia, the patient presents negative symptoms. Also, he manifests signs of metabolic syndrome. With having a syncope reported a year ago, he was admitted to the cardiology department, where the diagnose of arrhythmias in the form of atrial fibrillation was made.

Conclusions:

During periods of exacerbation of mental illness, the patient tends to discontinue the use of both psychiatric drugs and drugs recommended for somatic diseases. Due to the patient 's persistent atrial fibrillation, the sudden withdrawal of cardiac medications significantly increases the risk of somatic complications, including stroke. In the case of the presented patient, effective management of both mental and somatic disorders is crucial, which requires close multidisciplinary cooperation between a psychiatrist and cardiologist.

The rare case of Takayasu arteritis

Author(s): Gabrielė Jonaitytė Vilnius University, Lithuania Presenting author: Gabrielė Jonaitytė Tutor(s): Danute Povilenaite

Introduction:

Takayasu arteritis (TAK) is a large-vessel vasculitis of unknown etiology, primarily affecting the aorta and its primary branches. Age of onset is usually between 10 and 40 years. The inflammatory processes cause thickening of the walls of the affected arteries. The incidence varies from 0.4 to 1.5 per million. The mainstay of therapy for Takayasu arteritis is systemic glucocorticoids. In need, immunosuppressive agents and biologic therapy can be added.

Case report: 23-years-old male approached to general practitioner complaining of episodic neck pain, radiating to jaw, ear and back of the head, pain relieved after n onsteroidal anti-inflammatory drugs . 4 years ago he felt pain like this for the first time. According to the patient's previous medical history, he was diagnosed with chronic tonsillitis. On admission, physical examination was unremarkable: blood pressure was 120/80 mmHg in the right hand and 125/80 mmHg in the left hand, he had normal heart rate, no murmurs, fever, joint pain or rashes. His siblings (21 and 7 years old) were completely healthy. Due to pain in the neck area, thyroid ultrasonography was performed, when accidentally stenosis of both carotid arteries was noticed. Laboratory test results revealed minor elevation of inflammatory markers (CRP 8,99 mg/l, ESR 23 mm/h). Repeated Color Doppler ultrasonography examination of carotid arteries visualized bilateral thickening of common carotid artery walls (2,2 - 3,3 mm). Computed tomography angiography of thoracic aorta demonstrated thickening of aortic wall (4-5 mm) in the aortic arch area. Walls of aortic arch branches were thickened too. Takayasu arteritis (type II a) was diagnosed. The patient was treated with Methylprednisolone 48 mg/d and Azathioprini 100 mg/d. Three months later repeated Color Doppler ultrasonography showed improvement - bilateral thickening of common carotid artery walls decreased to 1,2 mm.

Conclusions

Takayasu arteritis is a rare chronic disease characterized by a fluctuating course, with apparent exacerbations and reductions in the intensity of the inflammatory processes. The onset of symptoms in Takayasu arteritis tends to be subacute, which often leads to a delay in diagnosis that can range from months to years, during which time vascular disease may start and progress to become symptomatic. Majority of patients show a progressive or relapsing and remitting arteritis and require long-term immunosuppressive therapies.

Non-specific symptoms, difficult diagnostics of Interstitial Lung Disease - case report

Author(s): Maria Kiedrowska Uniwersytet Medyczny w Łodzi, Poland Presenting author: Maria Kiedrowska Tutor(s): Joanna Miłkowska-Dymanowska

Introduction

The diagnostic of non-specific symptoms is considered a challenge, even for specialists. Medical practice shows that the first step in diagnosis process is to exclude the most common diseases, implement symptomatic treatment and establish the final diagnosis in the process of differential diagnosis. The example of disease with non-specific symptoms are Interstitial Lung Diseases (ILD). There are known about 200 kinds of disease entities, which could be categorized as ILD. Their onset can be gradual or abrupt and their causes very varied.

Case report

The patient is a 48-year-old woman, who suffered from non-specific symptoms, such as 40 Celsius degree fever, cough, breathlessness and weakness. The symptoms appeared on December, 2019. In the medical history the patient was hospitalized twice. The first hospitalization was on 14 th of January in District Hospital due to the assumption of pneumonia, then the patient was unsuccessfully treated by antibiotics. The result of imaging examination was qualified as tuberculosis. The patient was moved to the hospital of higher referentiality, where laboratory tests were performed and the Mycobacterium tuberculosis infection was excluded. Meanwhile, the patient presented acute respiratory failure and massive interstitial fluctuations in both lungs, which have been revealed in CT. It was necessary to implement symptomatic treatment based on systemic steroids which improved patient clinical condition. The fever and dyspnea subsided but at the same time, another non-specific symptoms, such as strong pain and swelling of knee and ankle joint appeared. The woman was moved to Pulmonology and Allergology Department to extend the diagnostics of ILD. The systemic steroid treatment was maintained and patient clinical condition was stabilized and modest regression of interstitial lung fluctuations in CT was observed. The complex diagnostics of ILD was conducted.

Conclusion

The diagnostics of Interstitial Lung Disease is difficult, as well as requires interdisciplinary approach and observation of the patient. Implementation of empiric treatment can alleviate the symptoms but does not give the certain answer about patient prognosis.

Analysis of treatment of a women with sigmoid cancer - study of oncological treatment of sigmoid cancer in a patient undergoing surgery and four lines of systemic treatment.

Author(s): Stanisław Cieślewicz Poznan University of Medical Sciences, Poland Presenting author: Stanisław Cieślewicz Tutor(s): Katarzyna Stencel

Introduction: Nowadays The colon cancer is one of the most common malignant tumor in Poland and in the world. If we take into account the incidence of this tumor, it takes third place among men (12%) and second place among women (10%), causing 12% of deaths due to cancerous reasons. The percentage of 5-year survival in patients in Poland is 44%, while in the USA and Western European countries, 5-year survival is 65% for men and 57% for women. For several years, colorectal cancer has been characterized by the highest percentage of incidence and mortality - according to estimates, in 2025 in Poland over 24,000 people will get colorectal cancer.

Case Report: A 58-year-old patient diagnosed with colorectal cancer - sigmoid carcinoma (ICD 10 - C18.7) was admitted to the Clinic for qualification for oncological treatment. The patient underwent resection of the sigmoid colon and partly the rectum, followed by adjuvant chemotherapy (XELOX). 13 months after the procedure, NMR examination of the abdomen and pelvis revealed a recurrence of cancer (metastatic lymph nodes in the pelvis), after which the patient was qualified for chemoimmunotherapy (FOLFIRI and Avastin). 28 months after surgery due to disease progression, the patient was qualified for the third line of systemic treatment (FOLFOX). Then, due to further progression, the patient was receiving rukaparib for two months as part of a clinical trial. Currently, the patient undergoes the 4th line of systemic treatment - Lonsurf (typiracil + trifluridine), during which intestinal obstruction has occurred and stoma emergence in the small intestine was exteriorized.

Conclusions: The purpose of this case presentation is to analyze the sequential treatment of colorectal cancer and to highlight problems and difficulties encountered during therapy. The assessment of the impact of intensive cancer treatment on the patient 's quality of life is also important. The role of population preventive and genetic research in patients struggling with cancer in reducing the disproportion in survival of patients with colorectal cancer between Poland and Western European countries should be emphasized.

Concomitance of renal neoplasm and consecutively detected urinary bladder neoplasm

Author(s): Maja Helena Domagalska, Stanisław Cieślewicz Poznan University of Medical Sciences, Poland Presenting author: Maja Helena Domagalska Tutor(s): Katarzyna Stencel

Introduction:

The incidence of multiple primary malignant neoplasms, however rare, is becoming more frequent problem in clinical practice. It is believed to be a consequence of many factors, such as genetic predisposition, carcinogenic substances and environmental risk factors, ionising radiation (radiotherapy of primary lesion) as well as higher overall survival rate, life expectancy rate and progress in diagnostic methods. Multiple primary malignant neoplasms can be divided into two categories: synchronous, defined as malignancies that occur within 6 months of the diagnosis of a previous cancer and metachronous, defined as those occurring more than 6 months later.

Case report:

66-year-old patient, after right nephrectomy due to renal cancer (ICD 10-C64) was admitted to Oncological Clinic for further decisions and therapeutic management. In histopathologic evaluation neoplasm was qualified as clear cell renal cell carcinoma. Imaging studies after operation revealed metastatic lesions in lungs. Patient was qualified for surgical intervention. Seven months after this operation new metastasis were detected. Patient was qualified for therapeutic program with Sutent (sunitynib). Computer tomography preceding treatment demonstrated bilateral metastasis measuring up to 23mm in PS3. CT imaging at one year after beginning of the treatment, revealed partial resorption of previous lesion and decrease in metastasis in PS3 size to 8 mm (nontarget lesion). During therapy anaemia and haematochezia were observed. Patient was also hospitalised due to weakness and pancytopenia. After two years form nephrectomy patient complained of dysuria - painful miction, pollakiuria, subfebrile state. This conditions persisted for over two months despite antibiotic therapy, resulting in postponement of radiotherapy. Patient was referred to urologic consultation, where abdominal ultrasonography revealed urinary bladder tumor. Transurethral resection of bladder tumor (TUR-B) was conducted and histopathologic evaluation confirmed high grade urothelial invasive carcinoma pT1 (ICD10 - C67). According to the fact that detection of second primary malignant neoplasms is not an exclusion criteria, treatment with sunitynib was continued. A year after operation no new neoplastic lesions were described.

Conclusions:

Oncological treatment requires holistic attitude for patient. This phenomenon imply the need to attentively supervise the treatment process, taking into consideration the possibility of multiple primary malignant neoplasms occurrence. Regular control examinations, especially imaging studies and careful observation of the patient enable quick detection of new lesions and may significantly increase overall survival and improve quality of life.

TRANSTHYRETIN CARDIAC AMYLOIDOSIS: A CASE REPORT

Author(s): Rūta Plančiūnaitė Vilnius University, Lithuania Presenting author: Rūta Plančiūnaitė Tutor(s): Sigita Aidietiene

Introduction Transthyretin amyloidosis (ATTR) is a group of severe diseases with a broad spectrum of genotypes and heterogenous phenotypes. It is characterized by the deposition of amyloid fibrils in the heart, peripheral nerves and other organs. Cardiac ATTR is a progressive infiltrative cardiomyopathy that mimics hypertensive, hypertrophic heart disease with many non-specific symptoms which makes it hard to diagnose.

Case report

A 58-year old woman was admitted to the hospital with the following symptoms: general fatigue, progressive dyspnea during exercise and at night, chest pain and leg swelling, joint pain, difficulty swallowing, Raynaud's phenomenon, reduced sensitivity and tingling of fingertips, carpal tunnel syndrome, dry mouth and hair loss. A year ago patient was consulted by rheumatologist for suspected rheumatologic pathology like systemic sclerosis, but anti-CCP, HLA-27, ANA and capillaroscopy were negative. Echocardiography and heart MRI showed signs of infiltrating myocardial disease, left ventricular hypertrophy, reduced left ventricular inotropy, ejection fraction and signs of significant pulmonary hypertension. For the next four years she was observed by both rheumatologists and cardiologists, who tried to find the diagnosis. Genetic testing was made for infiltrative diseases but it was negative, other laboratory and instrumental findings were not specific. While symptoms progressed it was decided to repeat the MRI, but this time with contrast. It showed diffuse late gadolinium enhancement - typical sign of cardiac amyloidosis. Abdominal fat pad aspiration biopsy was made to confirm the diagnosis and it was positive for ATTR amyloidosis. It took 7 years to diagnose this patient.

Conclusions

This disease displays significant heterogeneity in clinical course, which makes it hard to diagnose. Duration of diagnosis is very important for selecting right treatment strategies and patient mental health.

Acute promyelocytic leukemia with thrombotic complications treated with ATRA, arsenic trioxide and autologous HSCT

Author(s): Aneta Asztabska, Alicja Płaczek Marlena Baran, Michał Wojnowski University of Rzeszow, Poland Presenting author: Wiktoria Flaumenhaft Tutor(s): Mirosław Markiewicz

Introduction. Acute promyelocytic leukaemia (APL), a genetically-defined subtype of acute myeloblastic leukaemia, is a bone marrow proliferative disease in which hematopoietic stem cells differentiation is inhibited in the granulocytic lineage at the maturation stage of promyelocyte. The disease usually affects patients of both sexes, aged 20-50 years. Apart from typical symptoms of acute leukaemia, APL is also accompanied by features of disseminated intravascular coagulation (DIC). Due to the risk of bleeding complication, APL requires urgent diagnosis and treatment. In this report we present the case of APL complicated by recurrent thrombosis and we discuss the therapeutic management.

Case description.

19-year-old male was admitted to the Hematology Department in a critical condition, with severe nosebleed, abdominal pain, black vomit and weakness. APL was diagnosed, basing on bone marrow examination, and induction therapy indicated for high-risk patients (due to high initial leucocytosis) according to PETHEMA group protocol (all-trans-retinoic acid (ATRA) + idarubicin) was administered. Albeit after that patient developed complications with subacute Budd-Chiari syndrome and left-sided pleuropneumonia, complete hematological remission was achieved. Then patient received 3 remission consolidation (ATRA + idarubicin + Ara-C; ATRA + Mitoxantrone) and 3 remission maintenance courses (ATRA). Complete molecular remission was achieved after the first consolidation course. At the time of the third maintenance course, peripheral blood molecular examination revealed the presence of PML/RAR alpha gene with BCR1/BCR2 transcript subtypes, but contact with patient was unavailable. Over two months later, patient showed-up due to bilateral deafness caused by external otitis and was hospitalized to receive treatment: ATRA + arsenic trioxide (ATO) plus intrathecal CNS prophylaxis. Due to increasing leukocytosis, idarubicin was added. During the treatment meningeal infiltration was diagnosed with suspicion of micro-abscesses and pulmonary embolism and asymptomatic left ventricle failure occurred. Second complete molecular remission was achieved and was followed by three courses of remission consolidation (ATRA + ATO). In the transplantation center patient was qualified for allogenic hematopoietic stem cells transplantation, but due to lack of HLA-compatible donors, patient finally received autologous HSCT. He maintains complete remission until now with follow-up exceeding 4 years.

Conclusions. Our report shows that due to the wide possibility of conditions complicating the course of the disease and its treatment, patients with APL require interdisciplinary approach. Although the patient received autologous instead of allogenic HSCT, he stays free of the disease for more than 4 years.

Lack of education or ignorance? The case of negligence of the salivary gland tumor

Author(s): Joanna Wiśniewska, Michał Oleszko Edward Wasiewicz, Dominik Szawica University of Rzeszow, Poland Presenting author: Joanna Wiśniewska Tutor(s): Wojciech Domka

Salivary gland cancers are relatively rare and constitute about 3-6% of head and neck cancers. About 80% of lesions are located in the parotid glands and they are mostly benign and constitute 80%. Tumors of these organs are very diversified histologically. Most often, the first sign is a tumor on the neck around the salivary glands. Such changes are usually painless, soft, and varying degrees of motion relative to the surrounding tissue. Most tumors grow slowly but it is not possible to determine when such a change will rapidly increase that may indicate its malignancy. Many people seek medical attention from few months to even several years after they have noticed the change, which is far too late. Sometimes there are swallowing disorders, half face numbness, sensory disturbances and trismus. Pain occurs in advanced stages of the disease. Facial palsy, skin infiltration, or lymph node enlargement usually suggest a malignant nature of the tumor. In patients with a salivary gland tumor, imaging tests are required, followed by a fine-needle biopsy. Surgical removal of the tumor is the treatment of choice for benign and malignant tumors, and radiation therapy is used as an adjunct to surgery. For inoperable tumors, radiotherapy and palliative chemotherapy are used.

A 89-year-old woman was admitted to the hospital due to the left-hand neck tumor. The change appeared about 20 years ago, however, patient has not been diagnosed so far. The patient did not complain of any complaints related to the change. Detailed tests were performed. Physical examination revealed a hard, uneven, reddened lesion of significant size located in the region of the left parotid gland, as well as peripheral facial paralysis (of the 3rd degree) on the left side. Laboratory tests showed anemia, hypothyroidism, and renal failure. The patient was poorly oriented towards concomitant illnesses, but reported a history of hypertension. The CT scan of the neck revealed a polycyclic size change of 95 x 75 x 95 mm located in the left parotid gland, infiltrating the sternoclavicular-mammary muscle and the rumen muscle, moving the medial space of the cervical vessels. In addition, no changes were found in the soft tissues of the craniofacial and bone structures of the craniofacial. Lymph nodes within the normal range. The patient was diagnosed with a left parotid tumor and BAC was performed. The patient was disqualified for surgery and qualified for palliative radiotherapy (after receiving the BAC result).

The salivary gland tumor may manifest itself scantily, for a long time, e.g. only as a slow-growing tumor, and the lack of additional symptoms may delay the start of treatment. An example of this is the case shown above. It draws attention to the still existing problem, which is downplaying the symptoms of the disease. Here we are talking about as much as twenty years of neglect. It is worth considering what to influence such a significant omission.

Calciphylaxis: a case report

Author(s): Kotryna Liberyte
Vilnius University, Lithuania
Presenting author: Kotryna Liberyte
Tutor(s): Marius Miglinas, Doctor Ingrida Pukiene

Introduction. Calciphylaxis is a rare cutaneous-systemic disorder which can develop for the patients with advanced chronic kidney disease. The most common symptom is painful necrotic skin ulcers occurring mostly in distal legs caused by cutaneous arteriolar calcification. We present you a clinical case of 59-year-old woman who was diagnosed with calciphylaxis and got significantly better after parathyroidectomywas performed.

Case report. A patient has polycystic kidney disease, therefore is in hemodialysis for 7 years. 5 years ago, she has undergone nephrectomy due to repetitive urinary tract infections and is suffering from secondary hyperparathyroidism. A woman is complaining about weakness and occasional fever for a half of the year as well as pain, bruises and lesions which appeared on both legs and abdomen 5 weeks ago before hospitalization. The lesions progressed into very painful necrotic ulcers, surrounded by palpable masses. On physical examination large nodules above the tissue of both shoulders were present. By the reason of these symptoms the patient was hospitalized in Vilnius University Santaros Klinikos Nephrology and Kidney Transplantology station. Laboratory investigation showed elevated plasma levels of phosphate (2,18mmol/l), calcium (2.60mmol/l), parathormone (171,74pmol/l) and C-reactive protein (129,5mg/L). Local antiseptics and antibiotics were prescribed for the care of the ulcers; during the hemodialysis and at nights the pain of the ulcers was very strong therefore painkillers were used. 7cm (left) and 2cm (right) diameter soft tissue calcifications above the shoulders; resorption of humerus; significant osteoporosis of hand bones and angiocalcinosis were observed on roentgenograms. Cysts with calcinates in liver and enlarged uterus with calcified nodules during ultrasound exam were detected. During the ultrasound test of the thyroid gland hypoechogenic nodules in parathyroid glands were visible and biopsy of the tissue has confirmed nodular hyperplasia of parathyroid glands. After doctors' consilium parathyroidectomy with one parathyroid gland autotransplantation was performed. After the operation calcium decreased to 0,85mmol/l, parathormone - 0,72pmol/l, pain of the ulcers disappeared, masses around the ulcers and above shoulder decreased in size significantly.

Conclusions. Calciphylaxis was diagnosed based on clinical, laboratorial and radiological symptoms. General condition of the patient got significantly better after parathyroidectomy.

Brooke-Spiegler syndrome in 62-year-old patient

Author(s): Zaryczańska Anna, M. Sławińska W. Biernat, J. Dawicka Medical University Of Gdańsk, Poland Presenting author: Anna Zaryczańska Tutor(s): M. Sławińska, Michał Sobjanek

Introduction: Brooke-Spiegler syndrome (BRSS) is a rare genodermatosis with an autosomal dominant pattern of inheritance, caused by mutations within CYLD, a tumor suppressor gene associated with nuclear factor kappa B signaling pathway. The most common presentation of the disease are multiple, benign skin tumors referred as cylindroma, spiradenoma, spiradenocylindroma or trichoepithelioma, most commonly located within the region of head and neck. Early diagnosis is crucial, as in 5-10% of cases malignant transformation can occur. BRSS can also be associated with extracutaneous neoplasia affecting parotid or salivary glands.

Case report: We report a case of 62-year-old man who presented to dermatology department with multiple skin tumours within the head and neck area. He was especially concerned about the pigmented lesion on the neck. Besides, he had a history of hypertension, diabetes and left-handed hearing impairment. Within the previous several years he underwent a series of excisions in a surgical outpatient clinic. Based on the clinical presentation and previous histopathological results provided by the patient (confirming the presence of cylindroma, eccrine spiradenoma and trichoblastoma) BRSS was diagnosed. Pigmented tumour, dermoscopically revealing blue-gray structureless area with a light translucent border, was excised and diagnosed as spiradenoma. Otolaryngological assessment as well as computed tomography revealed no pathological process within the salivary glands.

Conclusion: A diagnosis of BRSS should be concerned in case of multiple, histopathologically confirmed adnexal tumours including cylindroma, spiradenoma, spiradenocylindroma and/or trichoepithelioma. Due to the risk of malignancy the patients require long-term dermatological and otolaryngological follow-up.

A case report of fish tank granuloma.

Author(s): Dorota Artyszuk, Elwira Milun Aleksandra Wieczorek, Maciej Rogowski Medical University of Bialystok, Poland Presenting author: Dorota Artyszuk Tutor(s): Anna Baran, Julita Anna Krahel

Introduction:

Mycobacterium Marinum causes the most common nontuberculus mycobacterial skin or osteosynovial lesion in humans, usually on the dominant extremity. It affects people with weakened immune system in the shape of opportunistic disease and those who have contact with aquarium world. It could manifest as a papule, nodule, pustule or abscess and develop sporotrychoid pattern. Also it may get around by the lymphatic vessels.

Case report: A 52-years-old woman was admitted to the Department of Dermatology and Venerology. First skin lesions appeared 5 years ago on the index finger of the left hand after injury and contact with aquarium water. Tuberculum test was positive, but the tissue culture was negative. Histological examination of a skin fragment revealed acanthotic epidermal growth, abundant infiltration of lymphocytes and neutrophils with formation of a single granuloma in the dermis. Diagnosis of swimming pool granuloma was established based on interview and histological findings. After getting tests clarithromycin was prescribed with good results.

Conclusions:

Mycobacterium Marinum is a cause of disease named fish tank granuloma, which is usually asymptomatic or gives nonspecific symptoms. Because of this it is often misdiagnosed.

In most of cases it appears in the upper extremity, especially one of fingers is affected after aquatic exposure. Treatment by clarithromycin in most cases is effective.

Effective Long-term Control of Severe Hidradenitis Suppurativa with Adalimumab: a Case Report

Author(s): Neringa Borodičaitė Vilnius University, Lithuania Presenting author: Neringa Borodičaitė Tutor(s): Tadas Raudonis

Introduction. Hidradenitis Suppurativa (HS) is a chronic inflammatory skin disease characterized by painful nodules, fistulas, abscesses and scarring. HS is frequently refractory to treatment and typically reduces patients' quality of life.

Case report. A 24-year-old male presented with lesions in the inguinal area, back and face. The first lesions appeared in 2009. In 2015, the patient was admitted to the emergency department (ED) due to fever and bloody diarrhoea. Ulcerative Colitis was diagnosed and systemic steroids, Mesalazine and antibiotics (ABs) were prescribed. In June 2016, the patient was admitted to the ED again with severe pain and purulent lesions in scrotal area, where a urologist prescribed Amoxiclay. The urologist referred the patient to a dermatologist who diagnosed HS and Acne Conglobata. The dermatologist prescribed Duac, local antiseptics and recommended Isotretinoin. The patient was consulted by an immunologist who ruled out primary immunodeficiency. In November, patient's condition deteriorated. He was admitted to hospital and treated with systemic ABs, Azathioprine, Prednisone and blood transfusions. The dermatologist consulted again and suggested tetracyclines or Rifampicin with Clindamycin. In December, patient was admitted to hospital again where he was treated with multiple incisions, revisions and dressing changes. In February 2017, patient's condition deteriorated again. Due to ineffective surgical, immunosuppressive and ABs therapies, he was started on Infliximab. Patient's condition improved and the amount of purulent discharge was reduced. 8 weeks later the patient received 4 th dose of Infliximab, but his condition deteriorated. Multiple abscessoromies were performed and Infliximab dosing was increased to every 4 weeks. Over the next 4 months, patient's condition stabilised. However, 7 months since starting Infliximab, purulent discharge from fistulae increased. In November 2017, the patient was finally started on weekly Adalimumab 40 mg. One month later, the patient felt less pain, no new lesions developed, and inflammatory markers were decreasing. Currently, the patient continues Adalimumab. He reported no pain, old lesions have healed and formed scars while new lesions have not developed.

Conclusions. HS is refractory to most systemic therapy, while surgical treatment has limited short-term effect.

Long-term treatment with Adalimumab has led to an effective control of a severe HS case and improved patient's quality of life.

Severe generalised pustular psoriasis - a case report

Author(s): Magdalena Żak, Karolina Kijowska Medical University of Łódź, Poland Presenting author: Magdalena Żak Tutor(s): Aleksandra Lesiak

Introduction: Generalised pustular psoriasis (GPP) is a rare variant of pustular psoriasis. The disorder presents with episodes of erythematous skin studded with pustules and occasionally with sepsis-like systemic symptoms. It is usually triggered by medication or infection. Generalised pustular psoriasis can be lifethreatening with the current mortality rate between 4 and 7%. Treatment options include retinoids, cyclosporine, methotrexate and targeted immunotherapy.

Case report:.

A 58-year old woman was admitted to the Department of Dermatology, Pediatric Dermatology and Oncology Clinic due to the presence of pustular lesions on her skin. The first skin symptoms appeared during infection few months before the admission. She was then treated with cyclosporine in a different dermatology centre with good results. When she ran out of the medication pustules reappeared within a week and the patient was referred to our department. During admission she was in a relatively good general condition although she had some mobility problems. Clinically, 90% of her skin was covered with pin-sized pustules. Laboratory tests showed significantly increased c-reactive protein and procalcitonin levels. The patient required multiple blood transfusions during her stay in the hospital. Her condition deteriorated and at one stage she required intubation and was transferred to the intensive care unit. The patient was treated with general supportive measures, antibiotics, corticosteroids, intravenous immunoglobulins and actiretin. Gradually, she improved and was discharged in stable condition with no skin lesions.

Conclusions:.

We report a case of generalised pustular psoriasis with severe course. It is important for the doctors to be aware of the symptoms, treatment and complications of this uncommon variant of pustular psoriasis.

Laryngeal cancer in young people: a case of an 18 year old female with mucoepidermoid carcinoma of the larynx.

Author(s): Airidas Brazlauskas Vilnius University, Lithuania Presenting author: Airidas Brazlauskas Tutor(s): Ignas Karnas

Introduction

Mucoepidermoid carcinomas are mainly known as being associated with salivary gland cancers. However, they are very rarely seen in the larynx. Mucoepidermoid carcinomas are made up of three cell types: epidermoid cells, mucus secreting cells and intermediate cells. It is frequently misdiagnosed with other laryngeal malignancies especially squamous cell carcinoma and adenosquamous carcinoma. The prognosis depends on the histological features: high grade tumors have a higher risk of death than low-grade tumors. Most agree that the main method for therapy is a wide excision, however radiotherapy or conservative surgery has been used for low grade tumors. The necessity of radical neck dissection is controversial and is usually performed when lymphadenopathy is present, however it is highly recommended to do elective dissection for all high grade tumors.

Case report

An 18-year-old female visited the outpatient clinic at National Cancer Institute of Lithuania complaining of hoarseness and dysphagia.

In 2017 she had experienced a tumor on the neck and hoarseness. It was suspected to be a Cysta Colli Mediana and it was treated surgically. Histologically: papillary cystadenoma of salivary glands. However, the hoarseness reoccurred recently with dysphagia. A tumor was found in the larynx and it was removed during microlaryngoscopy. Pathologist comment: low-grade (G1) mucoepidermoid carcinoma with invasion to the laryngeal mucosa. The 2017 histology was reviewed again: mucoepidermoid carcinoma, which looks similar to salivary gland cystadenoma. For further treatment the patient was sent to National Cancer Institute. Upon physical examination a 0.5cm tumor was found on the left side of the neck. Fiberoptic laryngoscopy showed the left vestibular fold and lower part of epiglottis to be enlarged with uneven surface. The head and neck MRI showed a supraglottic - glottic tumor - laryngeal mucoepidermoid carcinoma cT4N1M0 IV st. with no clearly enlarged neck lymphnodes. The patient was discussed on tumor board and it was decided to do a partial laryngectomy with elective II-IV zone neck dissection, temporary tracheostomy. The surgery was successful, both arytenoid cartilages were saved and resection margins were tumor free. The patient is able to speak. Postoperative radiotherapy was not given due to patients young age.

Discussion/Conclusions

Mucoepidermoid carcinoma is a rare entity in the larynx. It is essential to recognize the distinct clinical and histological features of this tumor, because it is often misdiagnosed. Progressive hoarseness and dysphagia are the most common symptoms. Histological classification is important to make appropriate therapeutic decisions. Recent studies support the elective neck dissection and postoperative radiotherapy not only for high-grade tumors but also for low-grade histologies with positive margins or extracapsular spread. Was postoperative radiotherapy advised at such a young age?

AL amyloidosis

Author(s): Dovilė Meidutė Vilnius University, Lithuania Presenting author: Dovilė Meidutė Tutor(s): Austeja Dapkeviciute

Introduction. Amyloidosis is a group of diseases in which an insoluble protein called amyloid is accumulated in various tissues in the body. This substance can accumulate in the heart, liver, kidneys, spleen, and brain. The risk of illness increases with age, primarily due to the increasing incidence of monoclonal gammopathy of uncertain significance. The prevalence of AL amyloidosis is 1-5/10~000. Here, I report a clinical case of 71-year-old man who has been diagnosed with heart amyloidosis.

Case report. In 2015, a patient was diagnosed with monoclonal gammopathy of uncertain significance. In 2016, magnetic resonance imaging was performed and it showed pronounced left ventricular hypertrophy and a diffuse accumulation in the myocardium. In 2017, a cardiac endomyocardial biopsy was performed and histologically non-AA cardiac amyloidosis was confirmed. During the time it took for all additional testing, patient developed a complete atrioventricular block and was implanted with a dual-chamber cardioverter-defibrillator. The definitive diagnosis was confirmed to be myeloma with associated AL amyloidosis. The patient received 3 courses of cyclophosphamide, thalidomide and dexamethasone (CTD) chemotherapy, however a minimal response was obtained. The second-line treatment was 4 chemotherapy courses of cyclophosphamide, bortezomib and dexamethasone (CyBorD) in combination with doxycycline until July 2018. In the absence of bone marrow infiltration, it was decided not to use autologous stem cell transplantation and to end the treatment, except for long-term use of doxycycline. Patient is still under continuous observation, showing slight increase in M gradient with no indications for systemic treatment.

Conclusions. Isolated cardiac amyloidosis with no evidence of systemic organ involvement is extremely rare and may require magnetic resonance imaging and endomyocardial biopsy to confirm the diagnosis. Amyloidosis can be treated with similar regimens as for multiple myeloma, preferably combinations including bortezomib in order to inhibit the activity of pathological protein-producing cells.

Takotsubo cardiomyopathy: a benign condition or a dangerous illness? - case report

Author(s): Martyna Stefaniak, Piotr Dzikowski Zofia Pietrzak, Michał Obel Uniwersytet Medyczny w Lublinie, Poland Presenting author: Martyna Stefaniak Tutor(s): Marek Prasał, Bartosz Kijewski

Introduction

Takotsubo syndrome is an acute cardiac disease characterized by transient systolic dysfunction of the apical and mid segments of the left ventricle in the absence of obstructive coronary artery disease. The patophysiology of TTS has not been well established but a number of its specific features suggest that it may be caused by catecholamine-induced microvascular spasm or by direct catecholamine-associated myocardial toxicity. During the acute stage of TTS a substantial number of patients develop severe complications such as arrythmias, thromboembolism, cardiac arrest and rupture.

Case report

73 years old patient, without previous cardiological interview, has been admitted to Cardiac Intensive Care Unit with the suspicion of STEMI. The patient had typical stenocardial symptoms occurringin a resting state and the growth of heart damage marker concentration - troponin has increased to 4900 ng/l; segment elevation of ST segment and negative T wave. A conservative treatment has been advised. The echodiagram test has showed the hypokinesia of the tip of the left ventricle with the compensatory hyperkinesia of basal cell segments, which has led to the takotsubo cardiomyopathy diagnose. The pharmacological treatment has been applied - beta-blocker, ACEI, spironolacton. The treatment has led to the stabilization of the patient's state and the improvement of pain symptoms. The gradual decrease of the markers of the heart-muscle damage has been observed. The ECG in the day of discharge showed sinus heart rate, regular, with 60/min rate, and the correct morphology of ST segments and T waves.

Conclusions

TS may be misdiagnosed as acute coronary syndrome because of similarities in clinical presentation. Not only cardiologists but also non-cardiologists need to fully understand TTS because this syndrome occurs in various situations. When the treatment of acute complication is successful, it will lead to a good prognosis.

Heart transplantation preceded by long-term biventricular assist device - case series

Author(s): Szymon Salamaga, Mikołaj Seostianin Mary-Tiffany Oduah, Navid Ahmadi Poznan University of Medical Sciences, Poland Presenting author: Szymon Salamaga Tutor(s): Bartłomiej Perek

Introduction

Maximal pharmacological therapy can no longer be seen as a reasonable end-point for refractory circulatory shock, at least in well-resourced health settings. Mechanical circulatory support (MCS) has always been an attractive option when conventional approaches fail. MCS refers to the use of various intra- or extracorporeal devices for improving hemodynamic status. The devices are indispensable for patients with acute or chronic hemodynamic instability. Ventricular assist devices (VADs) are among numerous forms of mechanical circulatory support commonly utilized for patients with end-stage heart failure, who are planned recipients of cardiac transplant in the undetermined future.

Case report This study was established to find out the main complications associated with long-term use of biventricular assist device. We conducted a retrospective analysis of patients implanted with biventricular assist devices (BiVAD) in our department, from the time of admission until discharge. POLVAD, the Polish version of the stationary ventricular assist device, was used in our department to stabilize patients prior to obtaining heart transplant. All patients had NYHA IV class heart failure. The clinical course of these patients was correlated with the duration of support. In the result three of four patients were successfully transplanted, in one case life-threatening complications of BiVAD therapy led to death.

Conclusions Our findings demonstrate the successful use of POLVAD therapy as a bridge to cardiac transplantation. Throughout this paper we managed to point out certain aspects of long-term mechanical circulatory support which should be predicted and dealt with in order to successfully conduct patient with end-stage heart failure to transplant.

Disseminated herpes zoster imitating vasculitis in a patient with rheumatoid arthritis

Author(s): Radosław Dziedzic Jagiellonian University Medical College, Poland Presenting author: Radosław Dziedzic Tutor(s): Adriana Łukasik

Introduction: Rheumatoid arthritis (RA) is a chronic inflammatory disease that may lead to symmetrical joint destruction and systemic complications. Cutaneous manifestations include rheumatoid nodules, pyoderma gangrenosum, granulomatous dermatitis, rheumatoid neutrophilic dermatosis and rheumatoid vasculitis. Herpes zoster (HZ) is caused by reactivation of the varicella-zoster virus (VZV). Patients with RA and receiving immunosuppressive treatment have a greater risk of developing herpes zoster than the general population.

Case report: A 51-year-old woman was admitted to the Department of Dermatology with disseminated erythematous papules (some erosive) and small oval ulcers with an erythematous border located on the face, trunk and extremities. Confluent erosions forming bigger ulcers with a necrotic bottom were located on the right thigh. The patient reported that initial changes appeared one month before and covered only the right thigh. After a few days, more and more lesions could be observed. The woman has been suffering from RA for more than 10 years and was treated with chloroquine, methylprednisolone and methotrexate. On the day of admission, she was in a good general condition (without fever, reporting only the pain of the right thigh). In further physical examination, there were no other abnormalities except for deformities of some joints associated with RA. The laboratory tests showed mild pancytopenia, elevated levels of C-reactive protein and liver enzymes. Further diagnostic tests including infectious diseases (HBV, HCV, HIV, VZV, HSV1, HSV2, syphilis), antinuclear antibodies (ANA), C3 and C4 complement and cryoglobulins were also carried out. A skin biopsy from a skin lesion was taken. During the second day of hospitalization fever and fluid-filled vesicles spreading to the whole body appeared. In the fluid sample, collected from the vesicle, DNA of VZV using PCR method was identified. Tests for anti-VZV IgG, anti-HSV 1 and anti-HSV 2 IgG turned out to be positive. The skin biopsy revealed features of possible viral infection and excluded typical vasculitis. The woman added that she had varicella when she was a child. The patient was treated with acyclovir i.v. (3x500 mg for 9 days) and doxycycline (2x100 mg for 9 days). Chloroquine and methotrexate were withdrawn, but methylprednisolone was maintained (4 mg daily). Liquid powder with detreomycin and ointment with gentamicin and boric acid were topically applied. As a result skin lesions slowly disappeared, progression and relapse were not observed.

Conclusions: Immunosuppressive treatment was the factor responsible for disseminated herpes zoster and atypical course of the disease. Wide differential diagnosis and extensive diagnostics were crucial in making an accurate diagnosis.

Urology



Coordinators: Krzysztof Krajewski, Agnieszka Pogorzelska,

Jury:

prof. dr hab. n. med. Romuald Zdrojowy , dr hab. n. med. Marek Lipiński, dr hab. n. med. Zbigniew Jabłonowski - ,

Cryptorchidism and late presentation of malignant germ cell tumour

Author(s): Mantas Fabijonavičius Vilnius university, Lithuania Presenting author: Mantas Fabijonavičius Tutor(s): Arnas Bakavicius, Ugnius Mickys

Background

Primary testicular malignant germ cell tumour (GCT) is the most common solid cancer in men after puberty aged 20-45. It makes 1% of all male tumours. 5-10% of primary testicular GCT patiens have a history of cryptorchidism, which is a known risk factor. An early (pre-pubertal) orchidoplexy is necessary to reduce the risk. If it is delayed until after puberty or never performed the risk increases 2 to 6 folds.

A pure yolk sac tumour (YST) is the most common testicular GCT in infants and accounts about 80% of the cases. However, it is an extremely rare tumour in post-pubertal patients found in only 0, 6% of adults.

Among the solid tumours occurring in adults, TGCTs have the highest sensitivity to DNA-damaging agents, resulting in cure rates of >80% of disseminated disease.

Case report

A 58-year-old man was referred to the urology department due to 1 month lasting left flank pain. Ultrasound findings showed about 10 cm sized unclear tumour next to the left kidney. It is known from patient's history and clinical examination that the patient has cryptorchidism of the left testis. Computed tomography showed a large (145x95x192mm) tumour of the left retroperitoneal space which circularly surrounds left renal artery, partly surrounds aorta, left renal vein and dislocates left kidney. Biochemical blood test showed an increase of AFP (153 kU/l) and HCG (4,64 U/l). Therefore, TGCT was suspected and a core biopsy of retroperitoneal space tumour has been performed. Histology and immunohistochemistry showed a germ cell - pure yolk sac tumour (PanCK(+), CK7(-), Oct4(-), SALL4(+), CD117(+), PLAP < 5%, CD30(-)). Patient underwent 3 cycles of BEP (Bleomycin, etoposide and cisplatin) chemotherapy which decreased the size of the tumour significantly and it was followed by surgical treatment. Samples of undescended testicle and metastatic tumour mass from retroperitoneal space were taken, however histological results did not show any residual tumour. Nodules of fibrosis-hyalinosis and xanthogranulomatous inflammation were only found in previous location of the tumour and metastasis.

Conclusions

A germ cell tumour other than seminoma, cryptorchidism and a pure form of yolk sac tumour are rarely found in adult patients after 45 years of age.

NOTE: core biopsy before treatment only, no residual tumour after treatment and increased HCG leave a possibility of mixed germ cell tumour (including yolk sack component) - fully not excluded. A status of another testicle must be evaluated.

Enlarged scrotum - case of epithelioid sarcoma

Author(s): Rafał Brzóska, Kacper Kulik Nicolaus Copernicus University in Toruń, Poland Collegium Medicum in Bydgoszcz, Poland Presenting author: Rafał Brzóska Tutor(s): Adam Ostrowski, Janusz Tyloch

Introduction: Cancer of testes is quite common in men as it represents 1% of male neoplasm and 5% of urological tumours. However, our patient was diagnosed with epithelioid sarcoma which is extremely rare in this location. Due to its origin the prognosis is poor and mortality is high in a short period of time. In comparison, testicular cancer shows excellent cure rate due to high chemosensitivity and early treatment.

Case report: 28 years old male came to the hospital with enlarged scrotum. He was diagnosed on other hospital unit because of small, rapidly growing change with atypical ultrasonographic manifestation. Biopsy was performed but histopatological result was unclear so patient didn't receive it for more than 3 weeks. In order to reconsultation he came to our unit. On 16.03.2016 samples were taken from scrotum, also cystostomy was performed. Pathological examination indicated epithelioid sarcoma proximal type. Uretrography was done in order to rule out fistula of urethra. Between 31.03 - 5.04 he was reoperated because of bleeding from biopsied spots in scrotum. 4.04 MRI of lesser pelvis showed 106x121x124mm tumor in scrotum which infiltrated perineum

without testis. On 11.04 wide perineal tissue resection with bilateral inguinal limfadenectomy was performed. Pathologist confirmed diagnosis with samples of removed tumor on 19.04. 3.05 - patient was transferred to Intensive Care Unit with SIRS and disturbances of consciousness - CT was performed in order to exclude intracranial bleeding. Patient's condition was getting worse. A lot of actions were taken in order to improve the prognosis e.g. broad-spectrum antibiotics, oxygen therapy, renal replacement therapy, but no significant changes were observed. Symptoms of multi-organ failure were increasing: metabolic acidosis and features of massive liver damage. On 5.05 cardiac arrest in mechanism of asystole occurred and patient passed away.

Conclusion: Proper diagnose of each case of enlarged scrotum is of high importance. Majority of such situations are caused by hydrocele and inflammation but there are also oncological causes. There is a wide choice of methods to differentiate changes in scrotum. Ultrasonography is a safe and accurate method.

However, results are strictly connected with experience of a doctor. CT and MRI focused in lesser pelvic can bring some help in diagnose process but are not commonly used in every case of enlarged scrotum. In case of doubts, scrotum revision can be performed. It gives possibility to find out much about the change. What is more, we can easily take samples for pathological examination, remove the change and make a decision about next step. All these actions lead to improved malignancy detection and as a result allow to introduce earlier treatment. The faster treatment leads to a better prognosis. To summarise, by improving detection of malignancy in scrotum, we will be able to terminate disease development and achieve better total survival.

Multidisciplinary approach in treatment of muscle invasive bladder cancer - only teamwork leads to victory

Author(s): Jakub Kalembkiewicz, Karolina Kalembkiewicz Kamil Stramski. Izabela Kloczkowska Pomeranian Medical University in Szczecin, Poland Presenting author: Dawid Leonczuk Tutor(s): Artur Lemiński

Introduction The treatment of invasive bladder cancer is one of the main oncologic issues in urology. This problem is significant in Poland, where survival rates after radical cystectomy [RC] remain significantly lower than in most countries of EU. Numerous urology centers make constant efforts to improve the treatment outcomes by shortening the delay of RC, improvement in surgical technique and multidisciplinary approach to the therapy. Efficacy of these efforts is generally measured by improvement in survival rates, but can also be assessed in the short term by the stage migration of cases undergoing RC. Objectives The aim of current study was to compare tumor stage distribution in bladder cancer after RC and after combination therapy which included neoadjuvant chemotherapy and RC. Materials and methods This retrospective study was conducted in the cohort of 167 patients, who have undergone RC in 2014-2019 due to muscle invasive bladder cancer [MIBC] at our institution. The treatment for 110 patients was RC (group I) and for remaining 57 patients (group II), multidisciplinary pathway - neoadjuvant chemotherapy and RC. The analysis included comparison of post-RC tumor stage distribution in histopathology specimens in both groups. Included parameters were: time to RC, surgical technique and presence of lymph nodes metastases. Criteria for the exclusion from analysis were partial cystectomy, palliative cystectomy and other than urothelial histology of bladder cancer. Results Significant differences in tumor stage distribution between group I and group II (p=0,013) were found. Patients who have undergone neoadjuvant chemotherapy had favourable shift in tumor staging. The biggest difference was observed in frequencies of stage pT0. This stage there was found in onethird of patients from group II, compared to 11,8% patients from group I. This phenomenon is of utmost significance, because patients subjected to multimodal therapy experienced greater delay to surgical treatment (average 114 days vs 86 days; p=0,028). The multimodality group was also characterized by lower frequencies of locally advanced tumors: Stages pT3 group I and group II resp.: 32,8% vs 24,6%; stages pT4: 18,1% vs 15,8%. Of note was a trend towards lower frequency of lymph node metastases (pN+) in group treated by chemotherapy (Group I - 35,45% vs. Group II - 22,81%; p=0,095). Conclusions Contemporary oncology means multidisciplinarity, cooperation between specialists from different areas, for whom the common goal is to achieve the best outcomes. Administration of neoadjuvant chemotherapy before radical cystectomy leads to complete responses (pT0, N0) in up to 1/3patients, heralding better overall prognosis. Furthermore, multimodal therapy is the chance for higher quality of life, because it facilitates minimal invasive laparoscopic surgery. Due to close therapeutic cooperation, after years of no improvement in treatment, not longer we are the losers - but the cancer is.

Reconstructive treatment of post-radiation extended ureteral stricture

Author(s): Ivan Zhestkov, Alexander Aprosimov Maria Katkova, Pavel Potapov Pirogov Russian National Research Medical University, Russia Presenting author: Ivan Zhestkov Tutor(s): Sergey Kotov, Rashad Seyfullayev

Radiation therapy is one of the leading methods of conservative treatment of pelvic organ cancer. Often, the spread of complications is due to high total doses and high reactogenicity of the surrounding tissues, which leads to the spread of local long-term complications, among which the ureteric stricture is the most severe. Currently, there is no established opinion in the literature about the optimal material and surgical technique for reconstructive surgery. In this clinical case, reviewing the technical features imposition of a vesical-intestinal anastomosis of patients with a high stenosis risk due to bladder radiation damage considered.

Patient L, 58 years old, 02/11/2019 patient was hospitalized in the Department of Urology, City Clinical Hospital No. 1 with a diagnosis extended stricture of the left ureter, hydronephrosis, left nephrostomy. according to history, palliative chemotherapy (PCT) was carried out since 1984 as well as radiation therapy for Hodgkin Lymphoma. In 2004 happened relapse. Courses of PCT and radiation therapy are currently in remission. As the patient said, in July 2018, she was admitted to City Hospital No. 29 with complaints of temperature and dull pain in the iliac region. Chronic pyelonephritis, left-sided hydronephrosis against the background of post-radiation ureteric stricture were revealed. Ureter stenting was performed, considering repeated attacks of pyelonephritis, the stent was removed, and nephrostomy was performed. Based on the MSCT contrast survey, left-sided hydronephrosis with stricture of the lower and middle third of the left ureter was diagnosed. Then was planned hospitalization in GKB No. 1 for surgical intervention after correction of the upper urinary tract infection. Considering the ureter defect length and the pronounced scar-adhesion process as a result of radiation therapy, the intestinal plastic of the left ureter was performed. The postoperative period was uneventful. The ureteral intubator was removed on the 14th day. MSCT was performed, which allows verifying good patency of the urinary tract. The urethral catheter was removed after 7 days, ureteral catheter after 14.

Due to radiation damage patient bladder, a vesical-intestinal anastomosis was performed to the top of the bladder according to the end-to-side method with spatulation of the intestine end. In our opinion, this method decreases the risk of stenosis in the case of radiation injury of the bladder.

Early detection of testicular cancers: time for groundwork! Perception of testicular cancer and testicular selfexamination by the Polish academic population.

Author(s): Jakub Kalembkiewicz, Jakub Kienitz Izabela Kloczkowska, Agata Żuromska Karolina Kalembkiewicz, Mikołaj Jońca Pomeranian Medical University in Szczecin, Polan

Pomeranian Medical University in Szczecin, Poland Presenting author: Jakub Kalembkiewicz Tutor(s): Artur Lemiński

Introduction Testicular Cancer (TC) is the most common malignant tumor among young men (20-45 years old) which incidence is constantly increasing. A palpable unilateral, painless tumor in the scrotum is one of the first and most common signs of cancer, and its detection is an absolute indication for urological diagnostics for TC. The key factor determining the effectiveness and aggressiveness of oncological procedures is the cancer stage at the time of diagnosis. Testicular self-examination (TSE) is therefore a tool of fundamental significance in the early detection and successful treatment of TC. Objectives. Assessment of knowledge about testicular cancer and TSE techniques in the population of Polish students. Identification of the population with the largest information deficiency, targeting of educational efforts. Materials and methods. The survey was conducted in a population of 702 men and 526 women. Online questionnaires (Google form) were sent to students via social media and deaneries of Szczecin universities from November 2018 to February 2019. Questions in the survey were divided into four sections: basic respondent data, general health awareness, cognisance of TC, knowledge about TSE. The replies were evaluated using a unified scoring system and the results were statistically analysed. Points were awarded for giving the correct answer (2 points) and for not marking incorrect answers (1 point). The maximum score possible was 39. Based on the questionnaire scores, respondents were divided into groups: enlightened (>85% correct answers), well educated (70-85%), moderately educated (55-70%) and poorly educated (<55%).

Results . Among the respondents, the most numerous group (51.6%) was moderately educated (50.4% men vs. 53% women). Only few (6.3% men and 7% women) qualified for the group of enlightened people. The welleducated group represented 27.6% of respondents (26.6% men vs. 28.9% women). 14.3% of respondents showed clear lack of basic knowledge about testicular cancer (16.7% men vs. 11.03% women). The average score of medical university students was 26.7 points, compared to students from non-medical universities population (23.6 points) (p<0,001). It's also important, that women had better scores than men, despite the fact they have no testicles of their own (p=0,014)

Conclusions. A significant number of students requires training in TSE and educational effort. Even among the small percentage of top rated respondents, none of them answered correctly to all questions. Although testicular cancer does not directly affect women, their awareness in this area is comparable to cognisance of men. Every fifth man seems to be ignorant in terms of his manhood. It should be emphasized that the questions asked in survey included only basic information, crucial for proper autoscreening. The main goal should be to intensify educational activities in matters of TC and TSE among high school and academic youth, especially in non-medical universities.

Mixed epithelial and stromal tumour of the kidney

Author(s): Aiste Pucinskaite Vilnius University, Lithuania Presenting author: Aiste Pucinskaite Tutor(s): Arnas Bakavicius

Introduction. Mixed epithelial and stromal tumour of the kidney (MEST) is a rare kidney tumour composed of both epithelium and stromal cells and accounting for 0.2 % of all renal cancers. MEST occurs generally in middle-aged perimenopausal women, especially those with a history of long-term oestrogen therapy. Even though benign cases are more common, malignant transformation of MEST have also been reported for both genders.

Case presentation. A 31-year-old woman presented with gross painless haematuria and thrombocytopenia. Patient had no significant medical history or family history of any malignancy and no history of treated with hormone. Abdominal computed tomography (CT) showed intraparenchymal mass in the left kidney with tumoral thrombus in left renal vein with spread to hepatic part of inferior vena cava. A metastatic evaluation including chest and pelvic CT were performed with negative results. Radical nephrectomy was performed under the diagnosis of renal cell carcinoma. The thrombus from vena cava inferior was also removed. Microscopy confirmed a diagnosis of malignant MEST. The patient was followed up with magnetic resonance imaging (MRI) at 12 months which revealed tumour recurrence in the left paravertebral area and thrombus in inferior vena cava. A patient was suggested second surgery for a recurrent disease. After surgery patient underwent 3 cycles of chemotherapy of ifosfamide and doxorubicin. Patient remains with no evidence of disease recurrence at 3 years after her last surgery.

Conclusions. To summarise, we present case report which shows unusual and extremely aggressive malignant form of MEST which appeared in young woman with no hormonal therapy. More studies needed to be done in order to improve treatment and management of malignant MEST.

Cryptorchidism and late presentation of malignant germ cell tumour

Author(s): Mantas Fabijonavičius Vilnius university, Lithuania Presenting author: Mantas Fabijonavičius Tutor(s): Arnas Bakavicius, Ugnius Mickys

Background

Primary testicular malignant germ cell tumour (GCT) is the most common solid cancer in men after puberty aged 20-45. It makes 1% of all male tumours. 5-10% of primary testicular GCT patiens have a history of cryptorchidism, which is a known risk factor. An early (pre-pubertal) orchidoplexy is necessary to reduce the risk. If it is delayed until after puberty or never performed the risk increases 2 to 6 folds.

A pure yolk sac tumour (YST) is the most common testicular GCT in infants and accounts about 80% of the cases. However, it is an extremely rare tumour in post-pubertal patients found in only 0, 6% of adults.

Among the solid tumours occurring in adults, TGCTs have the highest sensitivity to DNA-damaging agents, resulting in cure rates of >80% of disseminated disease.

Case report

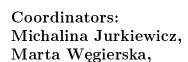
A 58-year-old man was referred to the urology department due to 1 month lasting left flank pain. Ultrasound findings showed about 10 cm sized unclear tumour next to the left kidney. It is known from patient's history and clinical examination that the patient has cryptorchidism of the left testis. Computed tomography showed a large (145x95x192mm) tumour of the left retroperitoneal space which circularly surrounds left renal artery, partly surrounds aorta, left renal vein and dislocates left kidney. Biochemical blood test showed an increase of AFP (153 kU/l) and HCG (4,64 U/l). Therefore, TGCT was suspected and a core biopsy of retroperitoneal space tumour has been performed. Histology and immunohistochemistry showed a germ cell - pure yolk sac tumour (PanCK(+), CK7(-), Oct4(-), SALL4(+), CD117(+), PLAP < 5%, CD30(-)). Patient underwent 3 cycles of BEP (Bleomycin, etoposide and cisplatin) chemotherapy which decreased the size of the tumour significantly and it was followed by surgical treatment. Samples of undescended testicle and metastatic tumour mass from retroperitoneal space were taken, however histological results did not show any residual tumour. Nodules of fibrosis-hyalinosis and xanthogranulomatous inflammation were only found in previous location of the tumour and metastasis.

Conclusions

A germ cell tumour other than seminoma, cryptorchidism and a pure form of yolk sac tumour are rarely found in adult patients after 45 years of age.

NOTE: core biopsy before treatment only, no residual tumour after treatment and increased HCG leave a possibility of mixed germ cell tumour (including yolk sack component) - fully not excluded. A status of another testicle must be evaluated.

Case study: Pediatrics



Jury:

lek. Katarzyna Dziedzic, prof. dr hab. n. med. Marcin Tkaczyk, prof. dr hab. n. med. Jolanta Słowikowska-Hilczer, dr hab. n. med. Elżbieta Jakubowska-Pietkiewicz,

Bezoars - nonspecific symptoms, difficult diagnosis, simple treatment

Author(s): Klaudia Możdżeń, Anna Pliszka University of Rzeszów, Poland Presenting author: Klaudia Możdżeń Tutor(s): Anna Ogorzałek

Trichotillomania is a mental disorder involving the pathological hair pulling, often swallowed by patients - trichophagia. This disease contributes to the formation of trichobezoars, foreign bodies in form of hair balls in the gastrointestinal tract that can lead to its obstruction. If a trichobezoar in the stomach has a "tail" penetrating into further parts of the digestive tract and causes obstruction, the Rapunzel 's syndrome can be recognized. The work presents examples of two pediatric patients diagnosed with trichobezoars.

Patient No. 1, 15 years old girl, admitted to the Pediatric Oncohematology Clinic because of suspected stomach tumor detected by abdominal ultrasound. The patient did not have any obstruction of gastrointestinal tract, took liquid foods, negated weight loss. After examination she was admitted to the Pediatric Surgery Clinic. For diagnosis, image tests were performed which suggested a 12x11 cm bezoar. Laboratory tests showed elevated PCT, CRP and the presence of erythrocytes in urine test. Patient No. 2, 15 years old girl, reported to Emergency Room in a severe condition due to dehydration and long-term vomiting, with cachexia symptoms. After diagnosis of prerenal renal failure, she was admitted to the Paediatrics Clinic. The ultrasound re vealed widened intestinal loops filled with liquid content and air in the hepatic portal system. After moving to the Pediatric Surgery Clinic, extended imaging tests were performed. CT scans showed widened jejunum and proximal ileum, but also compact masses measuring 7x5 cm, which suggested bezoars. Gastroscopy revealed the cardiac orfice, the pylorus dilatation and abnormalities of the gastric mucosa. Laboratory tests showed elevated CRP values, neutrophilia, lymphocytopenia and erythrocytes in urine test. After diagnosis, surgery treatment was performed in both cases. The operation was simple, it involved removing bezoars from the abdominal cavity.

The aim of this case report is to show difficulties in puting the correct diagnosis, because mental illness contributes to their development, which is often negated by patients and their carers, also the ensuing creations can give non-specific symptoms that may imitate other diseases. Despite the difficult diagnosis, symptomatic treatment is simple, but in order to avoid the formation of subsequent bezoars in the intestinal tract, causal treatment should be used, which may be a greater challenge for the doctor.

Neonatal Potter sequence associated with autosomal recessive polycystic kidney disease

Author(s): Karolina Radzikowska, Sebastian Fedorowicz Uniwersytet Medyczny im. Piastów Śląskich we Wrocławiu, Poland Presenting author: Karolina Radzikowska Tutor(s): Dorota Paluszyńska

Introduction:

Potter sequence is set of birth defects caused by oligohydramnion which results from low urine production by the fetus. Low diuresis of the fetus can by caused by agenesis or polycystic kidney, as well as mechanical obstacles preventing urine outflow, such as ureters atresia.

Case report:

Second pregnancy patient at 30 Hbd came to the clinic with suspected Potter syndrome. The first pregnancy ended with caesarean section at 32 Hbd due to placental abruption. After 19 hours of life, the child died of respiratory failure associated with prenatally diagnosed Potter sequence with ARPKD background. A girl from a second pregnancy, born after 35 Hbd by caesarean section due to anhydramnion. Postnatal condition was severe, reduced heart rate, failure to breath, peripheral cyanosis, decreased muscle tone and dysmorphic features. Abdominal USG showed enlarged polycystic kidneys. Despite high doses of the diuretic, low diuresis with macroscopic hematuria persisted. In the following days of life, it was decided to perform urgent left-sided nephrectomy and implantation of a catheter for peritoneal dialysis. After surgery, she was admitted to the Intensive Care Unit (ICU) in a severe state with massive edema. Peritoneal dialysis was started, after which the child's condition improved. On the 25th day of life, the child was transferred to the pediatric nephrology department and dialysis was continued. After a few days clinical deterioration occurred, assisted with shortness of breath and increased blood pressure. The girl was transferred to the ICU, where she died despite intensive treatment.

Conclusions:

Pregnant women with birth defects in the history of previous pregnancies should be treated with increased vigilance. Thanks to accurate prenatal diagnostics, it is possible to detect fetal defects early. It allows proper planning of the therapeutic procedure of the entire team of specialists and treatment of newborn in serious state, thereby increasing its chances of survival and reducing the risk of complications.

The most common complications of hydrocephaly on example of patient in whom a ventricular-peritoneal valve was inserted twice.

Author(s): Anna Pliszka, Klaudia Możdżeń Jan Imioło Uniwersytet Rzeszowski, Poland Presenting author: Anna Pliszka Tutor(s): Anna Ogorzałek

Hydrocephalus is a condition caused by obstruction of CSF flow which leads to progressive ventricular dilatation. We divide hydrocephalus into acquired vs. congenital and obstructive vs. communicating. The work present s the case of a patient who experienced complications during hydrocephalus treatment .

Female patient born premature by Ceasarian Section at 31 week of pregnancy (1200g, Apgar 6/8/9). The indication for caesarean section was placental detachment, preeclampsia and life-threatening fetal asphyxia. After delivery, baby required cardiopulmonary support. In Ultrasonography of CNS, third degree intraventicular hemorrhages were found. Furthermore in control tests it was found that lateral ventricular width increased, puncture was performed and in blood count test high values of citosis and proteinemia was revealed. On the 21th day, child was qualified for a surgery. Rickhams reservoir was applied to the patient. Then when obtained positive results from general examination and negative bacteria cultures, the ventricular-peritoneal valve was implanted. The day after surgery there were two bradycardia episodes lasting from a few to 70bpm with decrease in saturation, which spontaneously resolved. The next day patient spiked a fever, also the decrease in O2-sat and heart rate was revealed. Blood test revealed a decrease in pH, increase CRP and procalcitonin. Empirical antibiotic therapy was implemented (vancomycin+amikacin). 3 days after surgery, physical examination revealed decreased muscle tone and poor spontaneous motor activity. There were also tremors of the extremities and episodes of turn ups of the eyeballs. Postoperative CT revealed widening of the superaventricular system (Evans index - 0.45) and hypodense zones in the surroundings of the lateral ventricles, which pointed for percolation. High levels of protein and Staphylococcus capitis MRCNS colonies were found in CSF examination. Due to infection, the valve was removed, then the Rickham reservoir was applied and targeted antibiotic therapy was implemented (vancomycin+amikacin+linezolid). After stabilization of patient condition, obtaining correct parameters of CSF and three negative culture tests, the CSF medium-pressure peritoneal valve was implanted with Rickham's sub-chamber.

One of the treatment methods of hydrocephalus is implantation of ventricular-peritoneal valves. It is effective, however it is fraught with numerous complications, mostly infections. The aim of this work is to show the importance of asepsis during the procedure, adequate preoperative antibiotic therapy and the reduction of time of the surgery itself to a minimum are emphasized, which reduced risk of complications.

HETEROGENEOUS CLINICAL PRESENTATION IN DIGEORGE SYNDROME: A CLINICAL SERIES

Author(s): Rodica-Iulia Iorga "CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST, ROMANIA

Presenting author: Rodica-Iulia Iorga Tutor(s): Magdalena Budisteanu

Introduction

DiGeorge syndrome or 22q11.2 deletion syndrome is a disorder that has multiple symptoms and affects various organs and systems. It has classically been characterized by the triad of congenital cardiac defects, immune deficiencies, secondary to aplasia or hypoplasia of the thymus, and hypocalcemia due to small or absent parathyroid glands. It is now known to have a heterogeneous presentation that includes multiple additional congenital anomalies and later-onset conditions.

Case reports

We present five cases with 22q11.2 DS that we have observed. In all cases, the diagnosis was based on clinical and laboratory evaluation and by detection of the chromosome 22q11.2 microdeletion.

Patient A, a 16-year-old boy, presented mild mental retardation, learning difficulties, antisocial behavior, mild muscular hypertonia, facial dysmorphic features, long fingers and toes. Right bundle branch block and sinus tachycardia were noticed on the ECG.

Patient B, a 13-year old boy, was evalueted with mild speech delay, concentration and attention difficulties, particular facial features, long fingers and toes and toracic-lumbar scoliosis. The laboratory investigations indicated hypocalcemia.

Patient C, a 17-year old boy, presented delayed speech development, learning difficulties associated with craniofacial dysmorphism and mild dorsal kyphosis. ECG showed a right bundle branch block.

Patient D, a newborn boy, presented congenital heart defect-Fallot tetralogy, generalized tonic clonic seizure in the context of hypocalcemia.

Patient E, a 17-year old girl, had moderate mental retardation, behavior problems, height and weight hypotrophy, craniofacial and limb abnormalities.

Discussion

One of the most challenging features of DiGeorge syndrome is its phenotypic variability. The 22q11.2 deletion usually occurs by meiotic non-allelic homologous recombination events between low copy repeats on chromosome 22q11.2 termed LCR22. Among the genes mapping is TBX1, which encodes a T-box type of transcription factor. Tbx1 is expressed in the embryonic cells that will form the craniofacial region, thymus and parathyroid glands, aortic arch as well as cardiac outflow tract.

The most common symptoms in our cases includes developmental and learning disability, but the importance of individual genes that contribute to cognitive and behavioral problems is still being elucidated.

Congenital heart defects are frequently presented, conotruncal defects are the most common and tetralogy of Fallot is the most frequent among them; it was diagnosed in one of our cases. Hypocalcemia was diagnosed in 2 patients including one episode of seizure in the neonatal period; and other common features like skeletal abnormalities were reported.

In conclusions, genetic tests for 22q11 deletion should be taken into consideration in children with speech delay or learning difficulties, especially in association with dysmorphic features, heart disease and hypocalcemia.

Multiple late relapses of Wilms' tumor after 8 years: a case report

Author(s): Gabija Gintautaitė Vilnius University, Lithuania Presenting author: Gabija Gintautaitė Tutor(s): Sonata Saulyte Trakymiene

INTRODUCTION

Wilms' tumor (WT) is a frequent malignant neoplasm specific for children, the 5-year survival rate is almost 85%. The majority of relapses occur in the lung, tumor bed, and liver within 2 years of diagnosis. Relapse after 5 years after the first diagnosis is called "late recurrence" and is rare in WT.

CASE REPORT

A 4-month-old baby girl was diagnosed with WT when distant metastases were not observed. The baby received 4 weeks of preoperative chemotherapy (vincristine, actinomycin, SIOP 1993 treatment protocol) with a good radiological response. Following preoperative chemotherapy, the patient underwent right nephrectomy and histology confirmed the mixed type of nephroblastoma, stage I. The patient was treated with adjuvant chemotherapy for 18 weeks and remission was achieved.

Following 8 years of initial diagnosis, inoperable solitary metastatic tumor (109x88x103 mm) was detected amongst left lobe of liver, stomach and pancreas. A biopsy confirmed mixed type of nephroblastoma (dominating epithelial component and blastema). After 6 weeks of chemotherapy (SIOP WT2001), no radiological response was observed. Accordingly, the high-risk treatment of SIOP WT2001 with 2 chemotherapy blocks was started instead, which led to tumor reduction around 50%. The patient underwent radical surgery (liver resection and part of the diaghragm along with adjacent peritoneum removal), however planned radiotherapy was not applied because of possible liver toxicity. Therefore, the patient was consolidated with chemotherapy only.

Following short remission of 6 months, 2 nd multiple relapse in abdominal wall, peritoneum near liver and spleen was confirmed. Following treatment with VITB chemotherapy (vincristin, irinotecan, temozolomide, and bevacizumab), surgery and radiotherapy (19,5 Gy abdomen-pelvis) short remission was achieved, however, after 6 months the 3 rd relapse (abdominal wall, omentum) occurred. Surgery alone resulted in 5 months remission after which 4 th multiple metastatic relapse in pelvic region was treated with non-radical surgery, abdominal RT and dendritic cell immunotherapy. As there was no possibility to cure the child, oral m etronomic chemotherapy with thalidomide, celecoxib and cyclophosphamide alternating with etoposide was suggested. It resulted in 6 months of stable disease and good quality of life, however, due to the worsening of the patient's condition it was stopped. 4 months later the patient passed away.

CONCLUSIONS

WT is a pediatric malignancy treated by chemotherapy, radiotherapy, and surgery. WT relapse is not rare and accounts for 15% of WT with favorable histology. However, only 0,5% of patients with WT experience a late recurrence. Due to the rarity of late recurrence, there is no clear guidelines for its management.

Hemophagocytic lymphohistiocytosis in a 12-year-old male case report

Author(s): Paulina Karlińska Collegium Medicum, University of Warmia and Mazury in Olsztyn, Poland Presenting author: Paulina Karlińska Tutor(s): Wanda Badowska

Introduction

Hemophagocytic lymphohistiocytosis is a rare, severe and potentially deadly disease caused by uncontrolled proliferation of activated lymphocytes and macrophages. HLH can be divided into familial (primary) and acquired (secondary). Secondary HLH is associated with cancers like leukemias, immune disorders, infections (cytomegalovirus, EBV) but in both forms clinical manifestations are quite similar.

Case report

A 12-year-old male was transferred from a district hospital because of compounding pneumonia, high fever, muscles pain and a rash. During hospitalization he was diagnosed with left sided pneumonia with etiological factor Mycoplasma Pneumoniae. Despite combined antibiotherapy (Cefuroxime, Ceftriaxone, Clarithromycin) the patient's state was getting worse. Laboratory tests revealed: leukocytosis, higher level of: d-dimers, fibrinogen, CRP, procalcitonin and ferritin. Pleural puncture and fluid examination were conducted twice - tuberculosis test was negative. Abdomen ultrasound revealed extending spleen, which caused suspicion of HLH and MAS. Laboratory test eliminated secondary HLH - negative HIV, HCV tests, biopsy of left axillary lymph nodes and myelogram. After accurate diagnostics wrote 6 criterions recognizing HLH: 1) fever >380 for > 5 days, 2) Splenomegaly, 3) Cytopenia involving > 2 cell lines (hemoglobin < 9 g/dL [90 g/L], absolute neutrophil count < 100/mcL [0.10 texttimes 109/L], 4) high Serum ferritin 30200 ng/dl, 5) Hemophagocytosis in biopsy samples of bone marrow and plural fluid 6) hypofibrinogenemia - 1,11 g/l

Patient was treated due to HLH 2004 scheme and had hematopoietic stem cell transplant.

Hemophagocytic lymphohistiocytosis is a rare but very dangerous disease (death rate - 38,5%), which without proper treatment can even lead to death. HLH is still rarely diagnosed because of its unspecified symptoms. Another important aspect of HLH'S diagnostics is the differentiation between HLH and MAS. Early diagnosis is crucial because it enables fast and accurate therapy.

Severe congenital heart disease in a neonate with Down syndrome: case report

Author(s): Łukasz Gaj, Justyna Bogdan University of Rzeszow, Poland Presenting author: Łukasz Gaj Tutor(s): Antoni Pyrkosz

BACKGROUND:

First described in 1866, Down syndrome is a condition characterized by trisomy of chromosome 21. Among all cases, 95% are primary trisomy and 5% are translocation and mosaic forms. Down syndrome (DS) remains the most common chromosomal abnormality in live-born infants in the world today. Prevalence of Down syndrome is estimated to be around 1-2 per 1000 live births. It is widely recognized that CHD contributes significantly to the morbidity and mortality of children with Down syndrome. AVSD, VSD and ASD are heart defects that most commonly occur in children with DS. We focus mainly on atrioventricular septal defect (AVSD), which accounts for 40-50% of all cardiac defects in Down syndrome patients. We present case report of a Down syndrome patient who has presented complete AVSD since birth.

CASE REPORT:

A full- term SGA neonate was born to at 38 weeks gestational age a primiparous mother. Our infant was born during a spontaneous vaginal delivery at Hospital Profamilia in Rzeszow, when was immediately brought to the Neonatal Intensive Care Unit. The newborn measured 51 cm with head circumference of 31cm and weighed 2580 grams. The neonate had an Apgar score of 5 and 7 in the 1st and 5th minutes, respectively. At 11 weeks of pregnancy was performed USG and after this procedure was suspected a genetic syndrome with congenital heart disease. On physical examination, hypotonia, peripheral cyanosis, quiet crying and he had Down facies, neck fold and double palmar crease. Moreover the neonate had respiratory failure.

The physical examination was remarkable for a 3/6 systolic murmur heard and cardiac frequency 150- 160 bpm.

Also, we observed syndactyly of toes 2 and 3 in the double foot. Genetic testing was performed and confirmed in our neonate trisomy 21. His family history was negative for congenital heart defects.

During echocardiography findings Common Atrioventricular Canal (CAVC) with one atrioventricular valve. From the 7th day, the newborn developed severe pulmonary hypertension and he prescribed the following medicines: Spironol, Furosemid, Captopril. Moreover, from the 26th day has been added Carvedilol.

Our patient additionally has hypothyroidism, secondary hypogonadism and laryngomalacia. CONCLUSIONS:

In this report, complete AVSD was the main feature of a trisomy 21. AVSDs are the diseases most often associated with a chromosomal abnormality. About 50% of patients with AVSD have trisomy 21 and AVSDs account for about 50% of congenital heart diseases in Down syndrome patients. Moreover, faster diagnosis in this feature means better prognosis of treatment and survival.

An extremely rare manifestation of pulmonary alveolar proteinosis in a 13-year-old child treated with whole lung lavage.

Author(s): Magdalena Grochowska Medical University of Warsaw, Poland Presenting author: Magdalena Grochowska Tutor(s): Marcin Sanocki

Introduction:

Pulmonary alveolar proteinosis (PAP) is a rare lung condition characterized by an accumulation of proteinaceous material which leads to alveolar obstruction. The most common type of PAP is the autoimmune type. There are suspicions that deficiency in GM-CSF, as a result of the anti-GM-CSF antibody production, is strongly related to impaired surfactant recycling by macrophages that leads to the accumulation of surfactant in the alveolar space. The therapeutic algorithm in symptomatic patients includes primarily whole lung lavage.

Case report:

A 13-year-old girl was admitted to the Department of Pediatric Pneumonology and Allergology in Warsaw due to reduced breathing capacity for several months. She complained about progressively worsening dyspnea during physical activity. She denied resting shortness of breath, cough, fever or weight loss. She presented a malar rash visible on her face. She reported a 2-week history of fever before breathing difficulties appeared.

Family history showed lupus from the mother's side.

Before admission, the patient was hospitalized in Regional Children's Hospital in which she underwent extended diagnostics. Body plethysmography showed features of restrictions. The chest radiograph revealed bilateral alveolar opacities. High resolution computed tomography showed diffuse ground-glass infiltrates in butterfly distribution with septal thickening, known as "crazy paving" pattern. Bronchoscopy with bronchoalveolar lavage revealed Pneumocystis jiroveci cysts and trophozoites in cytology. Thoracoscopic lung biopsy disclosed alveoli filled with PAS-positive amorphous material and suggested the diagnosis of PAP. The patient's serum was sent to the Cincinnati Children's Medical Center where the anti-GM-CSF antibody level was analyzed and proved elevated concentration of auto-antibodies (16,5 mcg/ml) which is 100% specific for the autoimmune PAP.

The patient was qualified for the whole lung lavage procedure, which is carried out under general anesthesia. Each lung is filled with a saline solution while the other lung is intubated. Then cycles are repeated with subsequent passive drainage of the fluid thereafter.

After the treatment, we expect the improvement of the physical efficiency and decline of respiratory distress measured by total lung capacity and forced vital capacity.

Conclusions:

C urrent estimates suggest an incidence of one in two million people with male preponderance. 80 % of the reported cases occur in the third or fourth decade of life, therefore the occurrence of PAP in a 13-year-old girl is an extremely rare phenomenon. This is why treating children with the whole lung lavage procedure is not practiced frequently. Our Clinic in Warsaw is the only Polish pediatric medical center pursuing this procedure and there are few centers performing this in Europe.

Are somatic diseases important for a psychiatrist? Case report of a patient with paranoid schizophrenia.

Author(s): Martyna Bień, Klaudia Adamczewska Slaski Uniwersytet Medyczny, Poland Presenting author: Klaudia Adamczewska Tutor(s): Krzysztof Wilczyński, Lena Cichoń Małgorzata Janas-Kozik

Limbic encephalitis (LE) and neuroborreliosis may cause to gradual degradation of cognitive function, memory and confusion. Psychotic disorders on this process can lead to diagnostic difficulties and also require their differentiation from mental diseases such asschizophrenia.

A 16-year old patient with gynecomastia and excessive hair loss was admitted to pediatric endocrinology departament. However, due to numerous attacks of agression, a delusional interpretation of reality and somatic ailments- headache and bone pain was transferred to the pediatric neurology departament. The patient has been treated continuously for 11 days for neurobolerosis bacause of positive IgG and IgM antibodies (Western Blot). Unfortunately, the treatment was ineffective. It is worth adding that the patient has been diagnosed for limbic encephalitis hence magnetic resonanse imaging was performed and material for immune test was collected. The patient was transferred to the psychiatry department because of: long time to wait for the results of immunological tests, there were not characteristic symptoms for autoimmune encephalitis (e.g. paresthesia, convulsions, typical changes in the magnetic resonanse imaging), deterioration of a mental state - appearance of "s" thoughts and delusionals. It was on this basis schizophrenia was suspected and included a risperidone, lorazepam and levomepromazine with partial effect. In the meantime, results of autoimmune tests that may indicate limbic encephalitis (positive anti-neuronal CAPSPR2 antibodies) as well as positive results for systemic lupus (rheumatological consultation was ruled out excluding this diagnosis). The patient was redirected to the pediatric neurology ward where immunoglobulin therapy was carried out. Despite the treatment, however, no significant improvement was achieved and therefore was again transferred to the pediatric psychiatry ward. In the department, pharmacotherapy was modified to include aripiprazole (which was later withdrawn) followed by olanzapine and valproic acid. The patient was discharged in a balanced mental state with pharmacotherapy including risperidone, olanzapine, valproic acid and diagnosis of paranoid schizophrenia and suspected autism spectrum disorders. After discharge, the patient remains under the care of PZP for children and adolescents where the diagnosis of high-functioning autism has been confirmed.

The close relationship between the somatic state and mental functioning makes the diagnosis of psychiatric diseases a considerable challenge. Close cooperation between doctors of different specialties is crucial for correct differential diagnosis.

Diagnostic and therapeutic difficulties in child with Nijmegen breakage syndrome and lymphoma: case report.

Author(s): Aleksandra Filipiuk, Agata Kozakiewicz Kamil Kośmider, Monika Lejman Medical University of Lublin, Poland Presenting author: Aleksandra Filipiuk Tutor(s): Joanna Zawitkowska

Nijmegen breakage syndrome (NBS) is a rare autosomal recessive chromosomal instability disorder. It is caused by mutations in NBN gene. Majority of Slavic patients carry founder mutation 657del5. Clinically this entity is characterized by microcephaly, dysmorphic facial features, mild growth retardation and immunodeficiency. The estimated lymphoma risk in these patients is increased more than 1000-fold compared to general population. Anticancer treatment is a significant therapeutic challenge because of increased risk of therapy-related toxicity and infectious complications.

We report a case of 3-year-old boy diagnosed with T-cell lymphoblastic lymphoma (TLL). On admission to the Department of Paediatric Haematology and Oncology and Transplantology in Lublin, the child was presented with fever, bilateral clavicular and submandibular lymphadenopathy and splenomegaly. The lymph node biopsy revealed TLL and the patient was classified as stage IV. The boy was diagnosed with suspicion of microcephaly after his birth in London. All investigations made in the United Kingdom did not include Nijmegen breakage syndrome. The diagnosis of NBS was established in Poland by mutation analysis of the NBN gene that revealed homozygosity for typical 5 base pair deletion (657del5). This patient was treated according to EURO-LB 02 protocol without reduction doses of cytostatic drugs. After completed the induction phase of the therapy, progression of disease was observed. The treatment was changed and the IntReALL HR 2010 protocol (with the proteasome inhibitor Bortezomib) was used. Currently, the child shows an excellent response to the therapy.

In Nijmegen Registry report, 40% patients developed malignancy before 21 years of age and two-thirds died. It is very important to establish proper diagnosis in children with microcephaly. The specified genetic tests are necessary in all these patients. The patients with NBS should be observed due to higher frequency of malignancy.

Intrauterine growth restriction with idiopathic anaemia in fetus: a case study

Author(s): Maria Rutowicz, Anna Woińska Warszawski Uniwersytet Medyczny, Poland Presenting author: Maria Rutowicz Tutor(s): Bartosz Godek

Introduction: Intrauterine growth restriction (IUGR) is the most common cause of low birth weight, which can lead to higher risk of perinatal death and greater morbidity in the future. Hypotrophy is recognised during an ultrasound (USG) examination when fetal weight is under 10th percentile in relation to a week of gestation. There are many factors that may contribute to this pathology but the reason can be also idiopathic.

Case report: A 34-years old woman in her 3rd pregnancy, to 2nd delivery, was admitted to the 1st Department of Obstetrics and Gynaecology MUW due to early intrauterine growth restriction (452g, 0,3 percentile) diagnosed in 24+6/7 week of pregnancy during ultrasonography examination. In her medical history she had a caesarean section. She had been treated for thyroid insufficiency. In 25th week of gestation cordocentesis was performed and the blood samples were sent for further diagnosis of fetal cariotype, TORCH PCR, morphology and fetal blood type. aCGH test found deletion on 17th chromosome (del 17q12). Due to anaemia of the fetus (Hb 8 g/dl) four blood transfusions were performed, the first one in 25+6/7 week, the last one in 32th week of pregnancy, when estimated haemoglobin level was 13.9 g/dl. Test for the presence of anti-D antibodies was negative, so serologic conflict was excluded. Tests for toxoplasmosis, parvovirus B19, CMV infections were also negative. The blood flow in arteries: uterine, umbilical and medial cerebral evaluated by Doppler USG was within normal limits as well as cerebrospinal ratio. However, the fetus was still weighing 1211g in 34th week (0,1 percentile). Amniotic fluid was evaluated during all control USG visits and it was always within normal limits.

No anatomical abnormalities were found in all USG examinations. The weight of the fetus was estimated on the basis of the length of long bones, head circumference and abdominal circumference, which were always below the lower limit. The caesarean section was performed in 35th week because of the risk of intrauterine fetal asphyxia. A born girl got Apgar scores of 9-9, weighing 1610g.

Discussion: The presented case shows that in spite of the newest methods and wide range of diagnostics, finding the cause of various fetal disorders, like hypotrophy or anaemia is very difficult. This is why more research should be done to find the unknown reasons of these conditions.

Prenatal diagnosis of criss-cross heart with discordant atrioventricular connections and interrupted aortic arch

Author(s): Joanna Kućmierz Medical University of Lodz, Poland Presenting author: Joanna Kućmierz Tutor(s): Maria Respondek-Liberska, Julia Murlewska

Criss-cross heart (CCH) is an abnormal twisting of the heart on its long axis. It is characterized by the crossing of the atrioventricular inlets (AV valves are not parallel) and drainage of the atria into contralaterally located ventricles. Crossed ventricular inflow streams is identified when there's inability to visualize both atrioventricular valves in a single imaging plane in four-chamber-view. The reported incidence is no greater than 8 per 1 000 000, which accounts for less than 0,1% of all congenital heart defects.

I present a rare prenatal diagnosis of discordant atrio-ventricular and ventriculo-atrial connections of the fetal heart (criss-cross heart and ccTGA - congenitally corrected transposition of the great arteries) at 33 wks' of gestation.

The large artery, going over the ventricular septal defect from the morphological right hypoplastic ventricle, was described as the aorta with narrowing in the distal part. The second artery, under the aorta, was described as the main pulmonary artery widening distally and passing into the wide ductus arteriosus. Fetal cardiomegaly and large VSD (ventricular septal defect) were detected.

The boy was born at 40 th week, weighting 3000g. Prostin was introduced directly after the delivery. The cc-TGA, discordant atrioventricular connections with the aortic coarctation, the interrupted aortic arch (IAA) and VSD were confirmed postnatally.

The Prostin infusion was sustained. At 8 th day of boy's life the plastic aortic arch surgery with the segmental narrowing of the main pulmonary artery/banding of MPA was executed with the complications of the preexcitation syndrome. The child was developing insufficient weight gain at 6 months of age, but was observed with no evidence of arrhythmia or signs of cardiac decompensation.

Current prenatal cardiology experience and progress in ultrasound technology allowed to make a proper prenatal diagnosis of criss-cross heart and cc-TGA. Fetal echocardiography monitoring, in this very rare and complicated heart defect, allowed to prepare the pregnant women and medical staff for save delivery in tertiary center. Despite very complicated heart anatomy, the appropriate perinatal care and early cardiac surgery allowed to observe the proper development of the child without any problems during his first six months of postnatal life.

The life with hypothyroidism of young male with thyroid hypoplasia

Author(s): Hanna Minkiewicz Medical University of Warsaw, Poland Presenting author: Hanna Minkiewicz Tutor(s): Agnieszka Żyłka

INTRODUCTION Thyroid hypoplasia is a form of dysgenesis characterized by incomplete development of the thyroid gland resulting in primary congenital hypothyroidism, a permanent thyroid deficiency present from birth. Patients with thyroid hypoplasia commonly suffer from growth delays or lethargy and (if not diagnosed right after birth) can experience neurological damage and infertility. Unfortunately, the signs are not present at birth. Screening for neonatal hypothyroidism include checking Thyroid Stimulating Hormone (TSH) levels and ultrasound examination (USG).

BACKGROUND

This study presents a male patient born in 1988 who has not undergone neonatal screening due to the sepsis. Signs that he showed, such as growth and developmental delay, were thought to be the results of sepsis. Two years later, the boy was admitted to the hospital due to constant drowsiness and very slow growth. Based on the presence of low T4 and elevated TSH he was diagnosed with hypothyroidism and began levothyroxine substitution, which was sufficient for years. However, in 2003 he arrived at the hospital because of delayed growth. Hormonal assays confirmed Growth Hormone (GH) deficiency and so between 2003 and 2006 he was put on GH treatment, which resulted in proper growth and sexual development. At the age of 18 he stopped levothyroxine treatment for 6 weeks in order to undergo scintigraphy. It confirmed his absence of thyroid while his TSH test confirmed hypothyroidism. After returning to levothyroxine treatment, his results returned to normal. In 2009 at the age of 21 the patient once more experienced different effects of hypothyroidism such as chronic fatigue associated with irregular levothyroxine taking. The laboratory test again revealed GH deficiency. Therefore, the decision was to continue levothyroxine substitution and to add liothyronine. Moreover, he has been sent for computed tomography (CT) that showed ectopic thyroid tissue. It was considered it could have been vestigial thyroid in the shape of sublingual goiters. Currently he is experiencing alternate periods of increased sleepiness and chronic fatigue with periods of well-being, which depend on the regularity of drug taking and compliance.

CONSLUSION

This review presents a rare case of a patient suffering from congenital hypothyroidism, which was not diagnosed directly after birth. It highlights the importance of neonatal testing as well as the fact that appropriate treatment is not adequate, if disturbed by irregular medication taking.

A novel TAZ gene mutation and maternal mosaicism in Polish family with Barth syndrome

Author(s): Olaf Chmura
Jagiellonian University Medical College, Poland
Presenting author: Olaf Chmura
Tutor(s): Barbara Zapala, Teresa Platek

Introduction: Barth Syndrome (BTHS) is a recessive X-linked disease characterized by hypertrophic or dilated cardiomyopathy, skeletal myopathy, chronic/cyclic neutropenia as well as growth retardation, respiratory chain dysfunction and 3-methylglutaconic aciduria in male patients. Prevalence is estimated at 1/300~000-400~000 in the USA and 1/140~000 in England. It is caused by mutations in TAZ gene coding for the tafazzin protein, responsible for cardiolipin remodeling.

Case Report: In this work we present new pathogenic mutation of TAZ gene in Polish family which occurs as a mosicism in female members of the family. The proband suffered from various symptoms characteristic for Barth's syndrome and finally died at the age of 6 months. We performed Sanger sequencing of DNA from peripheral blood and epithelial cells in nine members of his family. We found a novel exonic mutation c.83T>A (p.Val28Glu) of TAZ gene. The mutation was passed through four generations in the family and the proband inherited it from his mother. Interestingly the accurate molecular genetics examination revealed a mosaicism (or percentage mosaicism) of the mutation in almost all female family members.

Discussion: This approach is very important for genetic counseling because most of the genetic diagnosis is based only on samples from peripheral blood. In our female Barth's syndrome carriers the mutation was present only in the epithelial cells DNA. Basing the diagnostic process only on peripheral blood samples may lead to wrong diagnosis, which could lead to sub-optimal treatment or even death. We conclude that genetic diagnosis of Barth's syndrome should be performed in women at least on the two or more types of cells drived from the different germ layers. The results of our study also point that the phenotype differs depending on degree of mosaicism and probably other factors.

Hemiplegia as a result of neonatal septicemia due to Pseudomonas aeruginosa

Author(s): Alfa Mariam Mathew, MD. C. Kulkarni Medical University of Sofia, Bulgaria Presenting author: Alfa Mariam Mathew Tutor(s): C. Kulkarni

Introduction

Neonatal septicemia is a common cause of mortality in infants . Pseudomonas aeruginosa (P. aeruginosa) has become a relevant cause of healthcare-associated infections in the neonatal intensive care unit (NICU) environment. In developing countries, P. aeruginosa is commonly reported as a bloodstream infective agent. In contrast, in the developed world, P. aeruginosa is considered to be an uncommon cause of neonatal sepsis in the absence of an outbreak. Aim of the case study to present the follow up of a child with a history of a nosocomial outbreak of P. aeruginosa and it's long term effects.

Case report

A 4-year-old, female-presented right hemiplegia, born in a private hospital in India, Kerala, term baby by normal vaginal delivery. She has a previous medical history of neonatal septicemia due to P. aeruginosa. The baby was vigorous at birth, APGAR score of 8/10 but soon after, she was noted to have respiratory distress and asymptomatic hypoglycemia, high CRP and was shifted to NICU. The neonate was treated with dual antibiotic therapy (meropenem/amikacin) for a week. CSF studies were normal.

At two months after birth, the mother noted hypotonia of the right arm and right leg and preference to left arm around the third month of birth, she has been followed up by neurologists and physiotherapists ever since then. MRI at 7 months revealed encephalomalacic changes involving left corona radiata and left parietal region - likely to represent sequelae of old perinatal ischemic insult as well as mild atrophy of the left cerebral hemisphere noted with prominent sulci in fronto-parietal region. CT at three years of age showed an irregular cleft like CSF attenuation in the left fronto-parietal lobe reaching up to the left lateral ventricular margin. Prominence in the left lateral ventricle is also noted.

At present, her personal-social, language, cognitive and fine motor milestones are all met. The child looks well and happy although mild hypotonia is seen in the right arm and leg. The child can walk without assistance with moderate limping, right arm clenched and flexed at rest. Rehabilitation continues twice a week.

Conclusion

Pseudomonas aeruginosa is associated with fatal late-onset sepsis in neonates. Healthcare providers should pay careful attention to recommended infection control practices, including hand hygiene and environmental cleaning (e.g. cleaning of patient rooms and shared equipment) to reduce the risk of spreading these germs to neonates. Despite advances in neonatal care, the management of Pseudomonas sepsis remains challenging especially when early and definitive therapy is critical. Hemiplegia in infants and children is a type of Cerebral Palsy that results from damage to the part (hemisphere) of the brain that controls muscle movements. This damage may occur before, during or shortly after birth. The term hemiplegia means that the paralysis is on one vertical half of the body.

Does exceptional mean impossible? A case report of tularemia in a one-year-old boy.

Author(s): Dominika Paw Medical University of Warsaw, Poland Presenting author: Dominika Paw Tutor(s): Marek Karwacki

INTRODUCTION: Tularemia is caused by highly infectious Francisella tularensis entering the body by bites of ticks and deer flies (ulceroglandular or glandular form), or through the skin, eyes, mouth, or lungs by contaminated animal tissue. It may also occure after drinking contaminated water or breathing in contaminated dust. A characteristic features are the sudden onset of chills, muscle and headaches, high fever and lack of appetite. At the site of bacterial entry, a primary lesion forms - an erythematous papule, then becoming an ulcer.

CASE REPORT: A one-year-old boy with persistent high fever suspected of mononucleosis (hepatosplenomegaly), was admitted to the hospital because of severe normocytic anemia, leukocytosis with neutrophils domination and enlarged liver. A mediocre, post tick bite purulent lesion in the left armpit, but not characteristic for borreliosis and not requiring surgery and non-purulent axillar lymph node (TBC vaccination?) was additionally disclose. During the initial diagnosis (excluded mononucleosis), the child worsened. Differentiating between borreliosis and abscess he received cefuroxime. The fever and hepatomegaly subsided, anemia resolved spontaneously and the child improved in a few days. Uncelear diagnosis warranted further investigations and certain diagnoses were consecutively excluded: EBV and Borrelia burgdoferi as well as Rickettsia slovaca (TIBOLA) and Anaplasma phagocytophilium (human granulocytic anaplasmosis) required switch antibiotic to clarithromycin. Among tick-borne diseases with such a clinical course (especially the abscess and nodal reaction), tularemia seemed the most likely, but it raised many doubts due to the frequency of occurrence in Poland. Finally, after 30 days the most unusual diagnosis of ulceroglandular tularemia was confirmed, and the child received treatment according to CDC and WHO standards. Due to the child's age and known toxicity, streptomycin (first-line drug) was not used, but gentamycin i.v. Currently 2 years after, the boy is developing properly with no local (highly probable) or general reoccurrence.

CONCLUSIONS: Concluding, the lack of clinical stubbornness could result in failure and recidivation with prorogue complications, especially when tularemia is casuistic in Poland. Although unlikely, tularemia should be considered in the differential diagnosis of unusual lymphadenopathy, especially local and complicated by atypical febrile course with hepatosplenomegaly and severe normocytic anemia.

8 YEARS OLD GIRL WITH NEUROCUTANEOUS MELANOSIS IN ASSOCIATION WITH GIANT CONGENITAL MELANOCYTIC NEVI: A CASE REPORT

Author(s): Kelija Leimane Rīga Stradiņš University, Latvia Presenting author: Kelija Leimane Tutor(s): Gunta Ticmane

Background. Neurocutaneous melanosis (NCM) is a rare (1-9:100 000) congenital neurological disorder associated with large or giant congenital melanocytic nevi (CMN) or CMN with multiple satellite nevi. NCM should be suspected when a patient presents with CMN and is diagnosed when there are lesions in the central nervous system (CNS). NCM can be asymptomatic or present as variably severe and progressive neurological impairment. According to literature the prognosis is very poor when the CNS is involved. The aim was to report rare case of NCM associated with giant-sized CMN.

Case report. A girl was born on September 18, 2011 from 6 th pregnancy, 3 rd labour, at 41 weeks of gestation. Her birth weight was 4.450 kg (93 rd percentile), height - 56 cm (95 th percentile), head size - 37 cm (73 rd percentile), chest size - 36 cm. Apgar score 8/8/9. Approximately 80% of her skin was covered with various coloured hyperpigmented lesions (from café au lait to dark brown) ether with or without hypertrichosis. Giant melanocytic nevus on her lumbar region, hips and lower abdomen (40% of skin, markedly reduced subcutaneous fat layer) was present as well as numerous satellite lesions on the torso, limbs, face and head (0,5-2,5-3,5 cm/D). Cerebral magnetic resonance imaging revealed cavernous malformations - multiple lesions in the brain stem, left side of the thalamus, right temporal lobe, right basal hippocampus, right frontal lobe. The lesions were hyperintense on T1, T2 and FLAIR. There was no contrast uptake. After MRI examination the diagnose was clear - Neurocutaneous melanosis. Several skin biopsies were performed at the age of 7 months, pathological examination - mixed pigmented nevi, no data of malignancy.

Until now patient has had 3 nevus excisions (facial region), 2 two-stage operations with Integra dermal regeneration template with a thin split-thickness skin transplant and dermabrasions of 5 pigmented nevi. Last cerebral MRI examination on 2019 revealed cerebral venous angioma in the left frontal lobe (with contrast uptake). Compared to the previous investigation (2012), there were no hyperintense structures on T1.

Girl is now 8 years old and so far, no physical or neurological delay in development has been observed.

Conclusions. A multidisciplinary approach to patients with NCM is imperative and should consider routine neurodevelopmental assessments along with dermatological examinations as up until now no guidelines have been developed on how to manage this disease. Despite expected poor prognosis, this patient serves as evidence that each case is individual and that this rare disease requires further investigation to determine its course and prognosis.

Erythema nodosum in the course of the cat scratch disease: 2 Case-series study

Author(s): Aleksandra Ostrowska, Anna Wieczorek Medical University of Warsaw, Poland Presenting author: Aleksandra Ostrowska Tutor(s): Maria Pokorska-Śpiewak, Carlo Bieńkowski

Introduction: Erythema nodosum (EN) is made of numerous nodular inflammatory lesions in the subcutaneous tissue and it most often occurs on the lower extremities. This patches doesn't tend to disintegrate and disappears without scars. The cause of erythema nodosum is unknown, but the appearance of EN may be associated with infections. Cat scratch disease is an infectious disease with a diverse course which complicates the diagnosis. It is caused by Bartonella henselae and most often affects children under 15 years old.

Case report: On 10th October 2019, a seven-year-old girl was admitted to the Department of Children's Infectious Diseases in Warsaw, due to pyrexia, lack of thirst and warmth erythema on anterior surface of the lower extremities and the forearms. A known cat scratched the patient a few weeks before. The physical examination revealed a reddish papule on the fifth finger of right hand and enlarged right axillary lymph nodes. The serological testing confirmed the Bartonella henselae infection. The girl was initially treated orally with cefuroxime, but without improvement. After that the therapy with azithromicin by mouth was administered and it has brought remission. In the same month, on 18th October 2019, another seven-year-old girl was admitted to the Department with pyrexia and painful, warmth and elevated above the skin surface lesions, which were localised on the left leg. The interview revealed that she took in an unknown cat a month before. The physical examination revealed enlarged and painless right axillary lymph nodes. The laboratory tests also confirmed B. henselae infection. The patient was treated accordingly with azithromycin orally for five days in dose of 12 mg/kg, which induced reduction and browning skin lesions.

Conclusions: Erythema nodosum is a disease, which may be caused by multiple infectious agents, including Bartonella henselae. Contact with cats, especially unknown can be dangerous, because they can transfer this bacteria under their nails. Extended medical history considering environmental risk factors could be useful to make a proper diagnosis.

Spontaneous activation of central puberty in patient with empty sella syndrome during testosterone therapy

Author(s): Maja Helena Domagalska Poznan University of Medical Sciences, Poland Presenting author: Maja Helena Domagalska Tutor(s): Monika Obara-Moszyńska

BACKGROUND. Primary empty sella (ES) syndrome is characterized by the herniation of the subarachnoid space within the sella, which is often associated with variable degrees of flattening of the pituitary gland. ES syndrome is characterized by heterogeneity both in clinical manifestation and hormonal disturbances. ES may lead to hypothalamic-pituitary dysfunction and hormonal insufficiency.

CASE REPORT. 15-year-old boy was admitted to the hospital because of delayed puberty, to perform endocrinologic diagnostics. In the history he underwent bilateral orchidopexy in eleventh month and second year of life. On physical examination he presented height within the normal range (166 cm), the testicles were undetectable in the scrotum, development of external genitalia at Tanner stage 1. Concentration of gonadotropins was prepubertal and IGF-1 was below the normal range. In USG examination testicles were small and were placed at inguinal canals. MRI examination revealed hypoplasia of pituitary gland (height up to 2,7 mm). Patient was referred to the Department of Paediatric Endocrinology in Poznan. Prepubertal stage, micropenis (testicles volume 2ml at inguinal canals, penis length 2.5 cm) and the increased amount of adipose tissue within the trunk were observed. Conducted tests revealed complete deficit of growth hormone (max level 1.7ng/ml after stimulation), hypogonadrotropic hypogonadism (after LHRH stimulation max LH level was 0.29mIU/ml and FSH 5.9 mIU/ml; testosterone 1.08 nmol/l) and hypercholesterolemia. Within other hypothalamic-pitutary axes no abnormalities were observed. The therapy with long acting testosterone and recombinant growth hormone (metabolic dose) was started. During next two visits within 8 months continuous decrease in adipose tissue and enlargement of penis up to 6 cm were observed, the volume of testicles was still 2 ml, the height increased to 170.7 cm. During next visit, after one year of treatment, the testicles descended to the scrotum and the volume of the gonads grew to 6 ml. The enlargement of testicle volume could suggest activation of central puberty. Hormonal tests confirmed this suspicion (after LHRH stimulation max LH level was 19.91mlU/ml and FSH 12.4 mlU/ml.). The testosterone substitution was discontinued. At the following visits the gradual development of testicles and penis were observed.

CONCLUSIONS. Some patients with hypogonadism on replacement therapy with testosterone may gradually regain normal reproductive axis. The predictive factors for potential reversal of this axis are unknown. This phenomenon shows that patients with pituitary insufficiency must be systematically monitored and supervised.

Atypical case of the battered child syndrome

Author(s): Natalia Hawryluk Collegium Medicum, University of Warmia and Mazury, Poland Presenting author: Natalia Hawryluk Tutor(s): Michał Puliński, Wojciech Choiński

Introduction: The battered child syndrome is a form of child abuse and has a high life threatening risk. Most victims are first-born and younger than 2 years of age children. As a special type of this syndrome, a penetrating abdominal and thoracic trauma in 22-month-old female is presented.

Case report: The 22-month-old female was admitted to pediatric emergency ward with numerous knife wounds after being attacked by the mother's partner. At the incident site, the child was assessed at 12 GCS, tachycardia 140/min, tachypnoe. Right open pneumothorax and wound dehiscence were identified. At emergency department, child was drowsy and features of hypovolemic shock like pale-blue skin, HR 160/min, tachypnoe. She was shifted to the operating room immediately in order to stabilize and further treatment. At the operating theater, a central line through the right femoral vein, intraosseous infusion through the left tibial bone and peripheral venous catheter through the right external jugular vein were established. The gasometry revealed pH 7.16, lactate> 40 and the haemoglobin was 8.2 g/dl. She was intubated under the general anesthesia drugs. The content of gastrointestinal tract was identified in respiratory tract. Additionally, lung auscultation revealed the lack of alveolar murmur on the left side. During the operation, two wounds of the paravertebral region, three wounds localised in left midaxillary and parasternal line were treated. Then the drain was inserted into the left and right pleural cavity. The numerous stab wounds were identified in diaphragm, spleen, pancreas, liver, duodenum and intestinum and then were subsequently treated. Left retroperitoneal hematoma was aspirated. The stomach tube was inserted. The wound of the right hand was sutured in layers and the articular capsule was reconstructed. During the operation, the child received antibiotics, antihaemorrhagic drugs, crystalloids and red cell concentrate. After several hours of urgent surgical treatment of extensive multiple organ trauma, the child in severe condition was transferred up to ICU. She received Sufentanyl, Midazolam and Ketamine in order to sedate. After 10 days she was extubated but the chest X-ray revealed total atelectasis of the left lung. The bronchoscopy was done and the lung aeration was achieved. On day 14 the rehabilitation was started, a decrease in muscle strength in the left lower limb was observed. The MRI revealed damage of lumbosacral dural sac and the EMG revealed damage of left peroneal nerve. Rehabilitation treatments were implemented. After 36 days she was discharged in overall good condition for further outpatient rehabilitation.

Conclusions: Penetrating abdomino-thoracic injuries demand immediate surgical intervention and long post-operative care. The result of treatment depends on extent of wounds and patient's general condition.

Pigeon breeder's lung - extrinsic allergic alveolitis in a 14 year old boy

Author(s): Aleksandra Marzec Medical University of Warsaw, Poland Presenting author: Aleksandra Marzec Tutor(s): Wojciech Feleszko

INTRODUCTION

Pigeon breeder's lung is a type of the rare interstitial lung disease- extrinsic allergic alveolitis. In this condition, specific avian proteins, usually inhaled with organic dust, act as an allergen which leads to an exaggerated immune response and as a consequence - to the inflammation of the alveoli. Patients are usually exposed to the allergens due to their occupation or a hobby. We can distinguish acute, subacute and chronic alveolitis. Symptoms are associated with the duration of a disease and they include productive cough, dyspnea, fever, malaise, pleurisy, anorexia and weight loss. The treatment is based on avoiding strategies and immunosupresive medicines.

CASE REPORT

The patient was a 14-year-old boy living in the countryside. He was referred to the Clinic due to the further pulmonological diagnostics. In the last 3 months the patient has presented a chronic, productive cough, dyspnea, fatique, anorexia, weight loss and periodically - wheezing. After the exposure to pigeon excrement while cleaning the dovecote, respiratory symptoms exacerbated with fever, chills and malaise. The symptoms resolved some time after the exposure was stopped. The patient had a positive family history to allergy, elevated IgE level and a presence of the restriction in spirometry with a negative reversibility test. In HRCT a typical image of extrinisic allergic alveolitis was observed. Due to characteristic clinical features, the results of medical examinations and allergy tests, the diagnosis of pigeon breeder's lung was confirmed. After conducting the treatment, the patient remained under constant medical supervision in the Clinic.

CONCLUSION

Pigeon breeder's lung is a rare medical condition, usually occurring in a certain population. Characteristic clinical features and medical history may enable making a proper diagnosis and conducting appropriate medical procedures in order to avoid the late complications of this disease.

Massive bilateral pulmonary embolism with no identifiable risk factors in a young patient

Author(s): Kristīne Maķe Rīga Stradiņš university, Latvia Presenting author: Kristīne Maķe Tutor(s): Alda Jaunromane, Viktors Cunskis

Introduction. Massive pulmonary embolism (PE) is a blockage of arteries in the lungs, and this condition often complicates with systemic hypotension and cardiogenic shock. Presence of right ventricular (RV) dysfunction doubles mortality during three months after diagnosis of PE.

Case description. A 25-year old male had called an ambulance with complaints of shortness of breath and burning pain in the chest. At that moment the patient presented with hypoxia (SpO2 80%), tachypnoea (30 bpm), tachycardia (133 bmp) and hypotension (80/40 mmHg). ECG showed sinus rhythm with frequent ventricular extrasystoles, ST segment depression in II, III and aVF leads. Lung auscultation revealed diffuse bilateral rales. Patient was hospitalized with suspected acute coronary syndrome, possible pulmonary embolism and pulmonary edema. Echocardiogram and chest computed tomography with intravenous contrast were performed in emergency department, visualizing RV overload and a massive bilateral PE. Laboratory tests showed elevated troponin I - 1618.1 ng/l, BNP - 172.68 pg/ml. The patient was stabilized and received anticoagulant treatment with Sol. Heparini 20000 I.U. i/v infusion for 32 hours, followed by subcutaneous Sol. Enoxaparini 100 mg. Condition of the patient gradually improved after the treatment. There were no signs of blood clots in the Doppler ultrasound of deep veins in the lower extremities. Anti-phospholipid and anti-cardiolipin antibodies were quantitatively analyzed, and they were negative. Level of troponin I significantly decreased. The patient was discharged from the hospital on oral anticoagulation Tab. Rivaroxabani 15 mg after 10 days in a good overall health condition.

Conclusions. The patient underwent intravenous anticoagulant treatment to facilitate the dissolution of thrombi with no complications. No identifiable risk factors for venous thromboembolism were found, thus oral anticoagulation beyond 3 months should be considered. Although thrombolytic therapy is first-line treatment for patients with high-risk PE, this clinical case demonstrates successful PE treatment with unfractionated heparin.

Twenty-nail dystrophy in an 8-year-old child

Author(s): Magdalena Żak, Karolina Kijowska Medical University of Lodz, Poland Presenting author: Magdalena Żak Tutor(s): Aleksandra Lesiak

Introduction: Trachyonychia also known as twenty-nail dystrophy, means rough, longitudinally ridged nails that are brittle and thin. It can occur in patients of all ages however children tend to be more frequently affected. Clinically, trachyonychia can be divided into two main groups: idiopathic and associated with other dermatologic diseases.

Case report: An 8-year-old patient was admitted to the Department of Dermatology, Pediatric Dermatology and Oncology Clinic of Medical University of Lodz due to nails dystrophy which affects both hands and feet. Lesions first appeared six months before admission. The patient was in good condition with no signs of infection or fever. Laboratory tests revealed high level of total and LDL cholesterol. During hospitalization treatment with acitretin was initiated with satisfying effect.

Conclusions: For the reason that trachyonychia can correlate with a number of dermatologic diseases, patients who present clinically with this disease should undergo a complete skin exam. Furthermore the diagnosis should be made carefully, as there are other conditions that can cause widespread nail dystrophy.

Germ cell tumor of mandible

Author(s): Elizaveta Tiurina Pirogov Russian National Research Medical University, Russia Presenting author: Elizaveta Tiurina Tutor(s): Dmitrii Buletov

Germ cell tumors (GCT) are neoplasms derived from germ cells. The main cause of their appearance is a violation in the migration process during the embryogenesis.

GCT can be divided into gonadal and extragonadal.

Extragonadal usually begin in organs along the axial skeleton: mediastinum (40-50%), retroperitoneum (30-40%), sacrococcygeal region (40%).

Localization in the region of head and neck (6%) is connected with the migration of primordial germ cells along nerve fibers and Schwann cells.

There are 3 reported cases of YST of the mandible.

Case report.

Patient: a 2-year-old boy.

At the age of 1 year parents noticed swelling of the right cheek. The presumptive diagnosis was a sialodenitis. Ultrasound of salivary glands and computer tomography of head showed a tumor of the right mandible. The further examination and treatment was held in the N.N. Blokhin Russian Cancer research Centre.

The results of the instrumental diagnostics:

MRI of head and neck region - right ramus of mandible was totally distructed, extraosseous component of the tumor 51x45x53, represented by a multinodular solid structure

CT scan of breast - metastatic lung cancer

Skeletal Scintigraphy - diffuse accumulation of radiotracers in the right temporal region

Serum tumor marker test - AFP 21700 ug/L, beta-hCG normal

Biopsy - yolk sac tumor

According to the results of the examination the diagnosis was an extragonadal germ cell tumor (pure yolk sac tumor) of right mandible, T2bN0M1, Mts in both lungs, 4 stage. High group of risk.

Treatment involved 5 cycles of chemotherapy (scheme CBEP) and surgical treatment, which included the resection of the right lower jaw and reconstruction with the sternocleidomastoid muscle. The child tolerated treatment satisfactorily.

AFP level was measured after treatment and showed a decline to normal values.

Special treatment was over.

The child was discharges under dynamic observation. At the time of this article, the boy is alive with no evidence of recurrence or progression of the disease.

Conclusion

Malignant germ cell tumors represent 3% of neoplasms in the pediatric population. Yolk sac tumors (endodermal sinus tumors) are the most common malignant germ cell tumors in this age group. There are only 3 reported cases of YST of mandible. It may be difficult to diagnose GCT because of the lack of specific symptoms. Serum tumor markers such as AFP and beta-hCG are highly specific for GCT. Successful treatment should combine chemotherapy and surgical operation

Neurocutaneous melanocytosis with Dandy-Walker malformation and rhabdomyosarcoma

Author(s): Natalia Konopko Collegium Medicum, University of Warmia and Mazury, Poland Presenting author: Natalia Konopko Tutor(s): Michał Puliński, Wojciech Choiński

Introduction:

Neurocutaneous melanocytosis (NCM) is a rare congenital neurological disorder characterized by abnormal aggregations of nevomelanocytes within the central nervous system associated with large congenital melanocytic nevi (CMN). Prognosis is described as very bad. Dandy-Walker Malformation (DWM) is a rare congenital malformation of the brain. It is characterized by cystic enlargement of the fourth ventricle which is communicating with an enlarged posterior fossa, cerebellar dysgenesis, high tentorial insertion and hydrocephalus. The association of DWM and NCM is a rare complex, by the 2013 year only eleven cases had been reported in the literature. But the association of NMC and rhabdomyosarcoma is even less frequent. Until the end of the 2019 year there have been only eight reports in the English literature.

Case report: An 8-month-old girl was admitted to the pediatric surgery ward for tumor and pigmented lesions resection. The girl was born with extensive melanocytic skin lesions: a huge melanocytic nevus involving the thorax, abdomen and proximal parts of limbs, with a tumor in the lumbar region and numerous satellite lesions. The right thigh was narrower due to the extensive pigmented nevus covering the entire thigh circumference. In the MRI of the head a spectrum of malformations of Dandy-Walker, ventriculomegaly and numerous melanocytic changes in the cerebellum were found. Neurocutaneous melanocytosis was diagnosed. When the tumor changed its structure from homogeneous to heterogeneous with palpable hard foci and oozing wound and began to enlarge, histopathological examination was performed and rhabdomyosarcoma with sarcoma metastasis in the inguinal lymph node were found. In the MRI of the small pelvis, numerous meta changes were found. Because the progression of melanocytic changes and a largening of the tumor (8x6cm) were seen, the girl was qualified for CEVAIE chemotherapy treatment. I3VA and later CEV chemotherapy cycles were performed. The tumor shrinked and it was resected so did the other skin lesions of the back, left hip and abdominal region.

Conclusions: In this case, chemotherapy worked. Thanks to the chemotherapy and surgery, the girl 's appearance has improved significantly, but unfortunately it can only be a matter of time, because the prognosis is not successful. The median survival time for patients with DWM and NCM is 6.5 months after becoming symptomatic.

Is it certainly pneumonia?

Author(s): Natalia Konopko Collegium Medicum, University of Warmia and Mazury, Poland Presenting author: Natalia Konopko Tutor(s): Michał Puliński, Wojciech Choiński

Introduction: Primary anterior mediastinal tumors are uncommon clinical entities on which there are few systematic reports in the surgical literature. In children, lymphoma is the most common primary anterior mediastinal tumor, germ cell neoplasms are the second. Teratomas are germ cell tumors arising from ectopic pluripotent stem cells that failed to migrate from yolk endoderm to the gonad. They should contain elements from all three embryological layers: endoderm, mesoderm and ectoderm. Teratomas may either be mature (well differentiated), immature (poorly differentiated) or with malignant transformation.

Case report: An 11-year-old boy was hospitalized because of suspected pneumonia. The patient reported chest pain and vomiting. He had never had similar symptoms before. Due to the lack of treatment effects, a routine chest X-ray was taken. An extensive mediastinal tumor was found on the left side. He was urgently admitted to the pediatric surgery ward for further diagnostics and possible tumor resection. Laboratory tests, ultrasound, CT, MR and chest X-ray were performed. The presence of a cystoid-solid tumor containing a small collection of adipose tissue, 50x75x112mm, reaching from the level of the aortic arch to the diaphragm, adjacent to the anterior and lateral wall of the mediastinum and the thymus was confirmed. After anti-inflammatory treatment the tumor decreased in the area of the the fluid component dominating in the lower part. The boy was qualified for surgery. During the left posterolateral thoracotomy the tumor was resected completely. Sections for histopathological examination were taken, from which it later turned out that it was mature thymoma's teratoma. After the procedure all the patient 's complaints subsided and the patient was discharged home in a good condition.

Conclusions: When the treatment of the alleged pneumonia has no effect, imaging of the mediastinum is necessary. Mature thymomas are very rare among children. In this case, the lack of any symptoms hindered prior diagnosis. Such a large tumor must have grown in the boy 's mediastinum for a long time, and it was detected accidentally during the treatment of pneumonia.

Diagnostic and therapeutic difficulties in a 3,5-year-old patient with neurodevelopmental disorders related to de novo and not previously reported variant in CACNA1A gene.

Author(s): Paulina Karlińska Collegium Medicum, University of Warmia and Mazury in Olsztyn, Poland Presenting author: Paulina Karlińska Tutor(s): Pawłowicz Malgorzata, Płoski Rafal

Background

Pathogenic variants of the CACNA1A gene are the cause of development of many neurological allelic disorders with a completely different phenotype.

Case Report

We present 3,5-year-old girl with recurrent episodes of hemiconvulsion-hemiplegia related to unreported de novo likely pathogenic variant in CACNA1A gene (c.4515T>G) identified by whole exome sequencing (WES). Patient was born at term from uncomplicated pregnancy. Psychomotor development was delayed since early infancy. From 17 months of age there are observed episodes of hemiconvulsion-hemiplegia triggered by infections, sleeping deprivation or head injury. Most of them are preceded by anxiety and behavior suggesting appearance of severe headache in patient. Episodes have stereotypical morphology: anxiety followed by impaired consciousness with concomitant tonic upgaze of eyes and prolonged unilateral clonic seizure of followed by transient hemiplegia. In patient 's neurological examination the left-sided hemiparesis with trunk and gait ataxia, as well as global psychomotor development delay are observed. Brain MRI scans and EEG recording showed typical changes observed in patients with pathogenic variants in CACNA1A gene. After establishing of genetic diagnosis in patient and retrospective analysis of morphology of observed episodes we decided to change classification of episodes from epileptic to migraine episodes. The variant-dedicated treatment was established: prophylaxis of migraine and hemiconvultion-hemiplegia episodes by acetazolamide and magnesium citrate treatment. Acute episodes of headache are treated with systematic administration of ibuprofen.

Conclusions

Identification in WES analysis the pathogenic variant of gene showing phenotypic heterogeneity requires a retrospective analysis of the symptoms observed in the patient to include personalized therapy.

Epileptic encephalopathy suspected of etiology related to deletion in the region 13q12.13. A case report

Author(s): Michał Stefan, Paweł Zapolnik Medical College, University of Rzeszów, Poland Presenting author: Michał Stefan Tutor(s): Antoni Pyrkosz

Epilepsy is one of the most frequent neurologic diseases of the developmental period. Over 80% of these disorders manifest themselves up to the age of 20, most of them in the first two years of life. Genetic conditions play a significant role in etiopathogenesis: both as predisposing factors in multifactorial entities, and as a causative factors in monogenic diseases. The most severe form of the seizure disorders, often of unknown etiology, is an epileptic encephalopathy.

RNF6 gene (Ring Finger Protein 6), with locus 13q12.13, encodes a 685-amino acids zing finger protein. Until now, mutations in this gene have been only associated with esophageal carcinoma. Northern blot hybridization revealed a weakly expression of the RNF6 gene in peripheral blood, spleen, prostate, testis, and ovary.

The aim of the study is to present a case of a 2,5-year-old girl with epileptic encephalopathy suspected of etiology related to deletion in the region 13q12.13 or perinatal hypoxia. In the range of available tests and epileptic panels, the cause of the disease cannot always be determined, perhaps the RNF6 gene should also be included in this type of analysis, which undoubtedly requires research on a wider scale.

The first pregnancy-first labour girl was born on time through natural passages. Hypoxia occurred in the perinatal period. The condition after birth was assessed according to the Apgar scale at 9 points. Variable epileptic seizures were noticed since infancy. Nonharmonic muscle tension was observed. Despite the multi-drug therapy and ketogenic diet used, the seizures occur up to 3-4 times a day. The magnetic resonance imaging of the central nervous system indicates astrocytic gliosis, which can be combined with a history of perinatal hypoxia or metabolic damage, and therefore genetic tests were performed. In the next generation sequencing (NGS) panel of 49 genes related to epileptic encephalopathy, no pathogenic variants were identified, nor were whole-exome sequencing (WES). Microarray-based Comparative Genomic Hybridization (aCGH) revealed a 75 kb deletion in the 13q12.13 range including the RNF6 gene.

Due to the unspecified cause of epileptic encephalopathy, the selection of optimal treatment has been difficult so far. Both burdened perinatal history and the presence of a deletion in the RNF6 gene may be the cause of the presented symptoms. It seems reasonable to analyze mutations in this gene in similar cases, which phenotypically manifested epileptic encephalopathy suspected of genetic background. So far, the available literature has not described the association of abnormalities in the RNF6 gene with the phenotype of neurological disorders.

Surgical treatment of Chiari II malformation in early infancy. Series of case reports.

Author(s): Julia Kuzaj , Olga Milczarek Jagiellonian University Collegium Medicum, Poland Presenting author: Julia Kuzaj Tutor(s): Stanisław Kwiatkowski

Introduction: Chiari malformation type II (CMII) is a herniation of anatomical structures of posterior fossa. This abnormality is associated with the most common neural tube closure defect myelomeningocele (MMC). Symptoms of CMII are dysphagia, stridor, central apnea or opisthotonus is an indication for surgical decompression of posterior fossa. However, the procedure performed within 1 year of life is related to a significantly higher mortality rate. We present four cases of infants operated in the first 16 days of life due to CMII.

Case Report: In 2018 and 2019 four male patients were admitted to the Department of Paediatric Neurosurgery with a MMC diagnosis. Level of the MMC differed between newborns and ranged from thoracic to sacral. Two of them had postsurgical complications such as cerebrospinal fluid (CSF) leakage or wound dehiscence. Three of them could not be extubated due to escalating respiratory failure and thus had to remain in the Intensive Care Unit (ICU). The fourth patient was in good general condition without disturbing symptoms. All of them had several cranial ultrasonography (USG) to exclude hydrocephalus. Only one neonate was diagnosed with increased intracranial pressure (ICP) which was an indication for subcutaneous reservoir implantation. Due to respiratory distress in three patients and opisthotonus which occurred in the fourth one, craniocervical joint magnetic resonance imaging (MRI) was done. All MRIs were remarkable for noticeably smaller posterior fossa with herniation of brainstem, fourth ventricle and cerebral vermis descendence into the vertebral level from C3 to C6. There was significant or complete CSF reserve abolition on the level of the foramen magnum. Despite early infancy and considerable risk of surgery, they were qualified to posterior fossa decompression with the possibility of additional laminectomy. The procedure was performed in 5., 7., 9. and 16. day after birth respectively. The patient who was operated on 5. day had additionally a subcutaneous reservoir implanted. All of them survived the surgery. Those with respiratory failure could be extubated 5 to 7 days after decompression procedure. Patient with opisthotonus had discernible improvement. The infant with subcutaneous reservoir had the implantation of the ventriculoperitoneal shunt (VPS) one week later and another one needed implantation of the VPS one month later. Two others with follow-up in March this year have not required the VPS and not presented increased ICP sings.

Conclusions: Despite the great risk of mortality of posterior fossa decompression procedure in early infancy, our patients achieved noticeable improvement of their condition and two of them in recent follow-up exam was not found with hydrocephalus and didn't need the implantation of VPS which is essential for their life quality. Operation in the first weeks after birth is challenging but for our patients turned out to be live-saving and inhibit short and long-term consequences.

The use of imaging methods in the diagnosis of encephalitis - case report.

Author(s): Weronika Cyranka, Monika Zbroja Katarzyna Drelich, Ignacy Rożek Medical University of Lublin, Poland Presenting author: Weronika Cyranka Tutor(s): Magdalena Woźniak

Introduction:

Viral infections of the central nervous system occur sporadically. In Poland, the number of registered cases oscillate from 3 to 5 patients for 100.000 per year. In our country, meningitis and encephalitis are most often caused by enteroviruses (Coxsackie A and B, ECHO and 3 types of poliomyelitis virus), tick-borne encephalitis virus and herpesviruses (HSV-1 and HSV-2).

Case report:

A 17-year-old boy, treated for influenza and Herpes labialis, was referred to the Department of Pediatric Neurology, Medical University in Lublin due to nausea, vomiting and fever. In the CT scan the brain structures appeared normal. During his stay in the hospital, the boy experienced stiffness of the neck and disturbed consciousness. In the MRI scan of the brain on the left side, weakly demarcated zones with increased IS were found in T2-weight and DWI images extending along the mesocortex, and layers of the cortical medial part of the temporal lobe, i.e. along the hippocampal gyrus, amygdala and hippocampus. The described changes did not enhance after administration of the paramagnetic agent. The boy also had speech disorders and seizures. Based on the above changes, encephalitis was diagnosed in the course of herpes infection. After 2 weeks, a control MRI examination was performer. The presence of lesions within the hippocampus on the left and right side were found. Diffusion weighted images did not show regions of restrictions, suggesting chronic changes.

Irregular cortical enhancement also appeared after intravenous administration of the paramagnetic contrast as a sign of hyperperfusion. Based on the above, progression of brain changes were diagnozed.

Conclusions:

Magnetic resonance imaging is the method of choice in diagnozing and monitoring of changes in the course of encephalitis.

The role of thoracic ultrasound in the diagnosis of pneumonia in children with chest wall deformities - a description of the case.

Author(s): Patryk Jasielski, Klaudia Szumna Dominika Madras, Faustyna Piędel Medical University of Lublin, Poland Presenting author: Patryk Jasielski Tutor(s): Kamil Janeczek

Introduction:

Pneumonia in children is still a common cause of child morbidity and mortality. Early diagnosis of pneumonia is crucial to reduce the total burden of this disease. Customarily, chest radiography is used to identify pneumonia but in some cases it is not a perfect diagnostic tool.

Lung ultrasonography seems to be a safe and effective method of evaluating lesions in the lung, especially among children with chest wall deformities, spinal defects, like scoliosis, whose routine imaging may give an ambiguous result. Pediatric patients burdened with additional diseases leading to disability additionally require special care during imaging diagnosis. Sometimes CT or chest x-ray in these patients can be a major problem, due to ionizing radiation as wall as difficult examination technique (positioning the patient correctly, holding the breath at the right time, stillness). While lung ultrasound is a bedside method, with high sensitivity and specificity, in which symptoms of pneumonia often appear before clinical signs.

The aim of the work is to assess the usefulness of a thoracic ultrasound examination in the diagnosis of pneumonia in children with scoliosis and chest deformities based on a description of the case of a 9-year-old girl with cerebral palsy.

Case report and discussion:

An almost 9-year-old girl with cerebral palsy was admitted to the University Children's Hospital in Lublin because of fever (up to 39 textdegreeC), worsening cough and shortness of breath. At the time of admission to the hospital, the child had a tachypnea, tachycardia, decreased saturation (SpO2 90%), the auscultation test revealed decreased lung sounds over the left lung, also girl had significant chest wall deformities. In chest X-ray, the radiologist described scoliosis, left side rib defects and complete obstruction of the left pulmonary field through the mediastinal shadow, but no inflammatory features were described. Because of poor condition of the patient, it was decided to perform a thoracic lung ultrasound examination, which showed massive inflammatory changes in the left lung. Because of ultrasound signs of pneumonia, the therapy has been intensified, ceftriaxone and vancomycin were added, and the girl's condition has improved.

Conclusions:

Patients with significant scoliosis and chest wall deformities require an individual diagnostic approach in the presence of a high clinical suspicion for pneumonia. Lung ultrasound may aid in differentiating between pathologies that conventional radiography may be unable to determine. It seems reasonable to consider the use of lung ultrasound instead of chest CT if a patient has a negative chest radiograph. Ultrasound appears to be a better alternative to traditional imaging due to its safeness, speed of execution and effectiveness. Another advantage of ultrasound is the ability to assess the actual condition and monitor the course of the disease bedside, without additional patient loads.

A rare case of pain insensitivity

Author(s): Paweł Mironiuk, Patryk Wojewoda Medical University of Białystok, Poland Presenting author: Paweł Mironiuk Tutor(s): Tomasz Guszczyn, Mirosław Rogalski

Introduction Pain is an important factor in warning of possible tissue damage and directs behavior in such a way as to protect the body from further damage. Schilder-Stengel syndrome known as pain insensitivity is a disease in which the patient is aware of the damaging factor and can recognize it as pain but does not respond to it. The purpose of the work is to describe the case of a patient with this syndrome and the problems associated with it.

Case report A 13-year-old patient with pain insensitivity (Schilder-Stengel syndrome) treated repeatedly for various types of injuries. February 2018 - purulent thumb inflammation after being trapped by the door 3 weeks earlier. May 2018 purulent inflammation of the pad and phalanx of the distal finger of the right hand - the injury is not remembered. October 2018 - hospitalization for chronic exudative arthritis, which has been treated outpatient for the past six months. January 2019 - hospitalization due to crooked right knee deformity where the plaster was placed in the corrective position. 2 weeks later - hospitalization for bedsores under plaster. May 2019 - another hospitalization during which the right knee arthroscopy was performed. Multi-drug resistant staphylococcus epidermidis was found and treated with vancomycin. June 2019 - the patient was consulted by a rheumatologist who did not find indications for the administration of immunosuppressive drugs in connection with exudate. Knee arthrodesis is being considered.

Conclusions Pain is important in our lives and not responding to pain may lead to more serious injuries and more difficult treatment due to the patient 's later visit to the doctor. When choosing a treatment method, the patient's needs should be considered first.

A Rare Case of acute neonatal appendicitis with perforation in preterm

Author(s): Karolina Barczak, Maria Burda Anna Olszanicka University of Rzeszow, Poland Presenting author: Karolina Barczak Tutor(s): Anna Ogorzałek

Introduction

The aim of the study was to describe a rare case which is acute appendicitis in a newborn baby.

Acute appendicitis is common cause of acute abdomen in children. The smaller the child is, the less characteristic the symptoms are. The most common of these is increasing abdominal pain intensified in the lower right, preceding fever, nausea, vomiting or anorexia. Acute appendictis is rarely considered in newborns and infants as the etiological factor of acute peritonitis. However, the presented patient with a genetic defect, severe pregnancy and postpartum complications developed the above disease entity.

Case report

A newborn male from third pregnancy, third delivery, born at 37 weeks gestation, by average Caesarean section with a body weight of 3360. He received 6 points on the Apgar scale at the 1st minute of life, 6 points at the 3rd minute of life and 8 points at 5 and 10 minutes of age. After birth, the child required respiratory support. In the physical examination, generalized edema, reduced muscle tone, facial dysmorphism (in the karyotype study, deletion of the long arm of chromosome 15 in the 15q13 region). After initial stabilization, the child was transported to the neonatal intensive care unit, monitored, complete parenteral nutrition implemented. In the first day of life, due to significant hypercapnia and lack of respiratory drive, the child was intubated and connected to a respirator. On the second day of life, enteral nutrition was introduced with a replacement preparation with an increased degree of protein hydrolysis. On day 11 of life signs of food intolerance were found, green backlog was observed in the stomach probe, and blood was present in the stool.

Imaging tests were commissioned: abdominal USG - air bubbles in the portal vein, X-ray of the abdominal cavity - perforation features.

After surgery, the child was qualified for laparotomy. Intraoperatively, gangrenous perforated appendix with diffuse peritonitis was found. The appendix was removed and peritoneal drainage performed

Discussion/conclusions

Acute appendicitis is a common phenomenon in childhood, but this diagnosis is rarely considered in the differential diagnosis of acute abdomen in the neonatal period, since the incidence of this condition ranges from 0.04 to 0.2% and is more common in premature babies. The clinical picture of neonatal acute appendicitis is unspecific and may lead to delayed diagnosis and misdiagnosis of necrotizing enterocolitis, which is a much more common condition in the neonatal period.

Dietary management of maternal phenylketonuria in a patient with a history of multiple miscarriages: a case report

Author(s): Magda Piekarska Medical University of Warsaw, Poland Presenting author: Magda Piekarska Tutor(s): Joanna Kacperczyk-Bartnik, Agnieszka Dobrowolska-Redo Ewa Romejko-Wolniewicz

Introduction

Phenylketonuria (PKU) is a metabolic disorder characterised by the deficiency of phenylalanine hydroxylase. As a result phenylalanine cannot be properly metabolised. When untreated results in irreversible intellectual disability. Newborn screening has enabled prompt detection and implementation of appropriate treatment of this disorder, which involves a phenylalanine-restrictive diet. A PKU woman willing to have a child ought to maintain a phenylalanine-restrictive diet during the pregnancy or even before conception. Otherwise, foetal phenylalanine plasma concentration may reach teratogenic levels. Consequently, the foetus may develop phenylalanine embryopathy, which involves growth retardation, microcephaly, congenital heart diseases and facial dysmorphism.

${\bf Case\ report}$

35 years old woman was diagnosed with phenylketonuria with newborn screening. As she turned 18, she ceased to adhere to dietary restrictions. The patient presented a history of multiple miscarriages. She gave birth for the first time in 2009. Cesarean section was performed due to placental abruption at 31 weeks of gestation. The infant was diagnosed with multiple abnormalities resulting from maternal PKU. The offspring's development is delayed and he is receiving a special education program. At 31 weeks of seventh gestation the patient was admitted to hospital due to the abnormalities in ultrasound examination. There was a suspicion of intrauterine growth restriction (estimated foetal weight: 1019 + 149g - below 10pc). The patient was not following any diet. She had a dietary consultation and phenylalanine-restrictive diet was commenced. On admission her phenylalanine plasma concentration was 12,95 mg dL (recommended range: 2-6 mg dL). After five days of adhering to the diet it has decreased to 7,85 mg/dL. She was discharged from hospital with prescription to maintain dietary restrictions.

Conclusions

Maternal PKU is a condition which can be successfully treated with dietary restrictions. Maternal phenylalanine plasma concentration ought to reach recommended range until 10 weeks of gestation. However, it would be advisable if phenylalanine-restrictive diet was commenced even before conception. What is worth noticing is the fact that the foetus is subjected to higher phenylalanine plasma concentration than the mother's due to positive gradient across placenta. It is pivotal to provide PKU patients with appropriate family planning counselling.

MEN IIB syndrome with psychiatric manifestations and comorbidities: path to the diagnosis

Author(s): Polina Viktorova Riga Stradiņš University, Latvia Presenting author: Polina Viktorova Tutor(s): Nikita Bezborodovs

Introduction. Multiple endocrine neoplasia type 2B (MEN2B) is a rare hereditary autosomal-dominant cancer syndrome, which composes 5% of all MEN 2 cases, hallmarked by the occurrence of medullary thyroid cancer (MTC) and pheochromocytoma together with marfanoid habitus and mucosal neuromas of the lips, tongue, and eyelids. MTC often becomes the first clinical manifestation and usually presents in early childhood.

Case report. Patient was first seen in a hospital in year 2005 at age 5 due to malabsorption and small stature. Height 95cm (-4SD), weight 16kg (-1SD) specific habitus - disproportionate body structure, barrel-shaped chest, Harrison's groove, dysmorphic face, anteverted eyelids, thickened lips. Psychomotor development retardation, muscle hypotonia. Diagnosed with celiac disease.

11 yo — in children's psychiatric ward for headaches, transient fainting episodes, learning difficulties, behavioral disturbances at school, aggression. Uncritical towards his own behavior. Polyphagia, polydipsia. Celiac disease uncontrolled. Dg: Partial growth hormone deficiency, small height, gingival fibromatosis; erosive gastropathy, celiac disease, astigmatism, F91.0, F07.8, F71.0, F81.1. Parents do not agree to begin growth hormone therapy.

16yo-complaints of episodes of fever, chills, stabbing chest pain. Multiple neurinomas in the mouth are found. Calcitonin 1838.00 pg/mL. USG of thyroid gland: Multinodular goiter. Multiple hypoechogenic nodules in neck and mandible regions. Puncture biopsy was performed.

Histopathology report: MTC with metasases in lymph nodes, thymus and soft tissues. IHK: Endoplasmic diffuse expression of calcitonin++, CKAE1/AE3++, ChrA +++, synaptophysin ++ / +++). MEN IIB suspecta.

Surgery: total thyroidectomy with regional lymph node extirpation.

Molecular genetics testing result: mutation in RET gene with subsequent nucleotide changes c2753T> C, subsequent change of amino acid in exon 16 of p.M918T; a heterozygous allele variant found in the RET gene that modifies the protein and may lead to the manifestation of clinical symptoms. MENIB diagnosis approved.

MDT meeting: consultation at the NET centers for experimental therapy.

SPECT / CT: intense and diffuse accumulation in soft tissue of lower lip. Small volume and low intensity focal region of the left adrenal gland.

17 yo - MRT: Chiari I brain dystopia. Multiple Schmorl hernias in the thoracic and lumbar region. Undefined mass in larynx. Behavioral disturbances persist, patient, promises to kill himself, tired of being in hospital, unwilling to be treated. April 2020 – patient receives hormonal therapy. Behavioral disturbances persist, but there are no episodes of aggression and antisocial behavior.

Conclusions. The presence of comorbidities significantly lengthened setting up the diagnosis. Behavior disturbances were the factor that led to the additional testing and discovering the diagnosis. The psychological burden of the disease set a toll on the patient and created difficulties in accepting diagnosis and complying with further treatment.

Syncope with seizures - a case only for neurologist? - Acute vasovagal syncopes in a 12 year old boy, case report

Author(s): Jakub Pytlos, Beata Szlagowska Medical University of Warsaw, Poland Presenting author: Jakub Pytlos Tutor(s): Małgorzata Żuk, Katarzyna Sobczyk

Introduction:

Vasovagal syncope is an incident of loss of consciousness due to an insufficient cerebral bloodflow, caused by an abnormality in blood pressure regulation. Stress or prolonged vertical position are considered to be the indirect causes of the onset, which is characterised by an abrupt hypotension frequently accompanied by bradycardia. Though usually only affecting the quality of life of the patient, acute syncopes may proceed with life-threatening asystole.

Case report:

12-year old boy was admitted to neurology department due to paroxysmal anomalies appearing with a loss of consciousness, tonic-clonic seizures and emesis. Abnormalities emerged in the circumstances such as stress or lasting vertical position, thus common for vasovagal syncopes. Medical history includes eight paroxysmal abnormalities occurring within time intervals of 1-2 years. Patient was previously hospitalised, yet no anti-epileptic treatment was introduced. Neurological examination showed no anomalies, but as Holter ECG revealed additional ventricular excitations and mid-ventricular conduction disturbances, extended cardiological diagnostics were recommended. Patient was admitted to cardiology department. Laboratory test showed haematological parameters on the lower threshold of the norm. Cardiac stress test on treadmill was attempted, resulting in the loss of consciousness preceding the starting point of the trial, followed by tonic-clonic seizures and emesis, presumably consequent on anxiety reaction. ECG record showed asystole ongoing for over a minute. In the course of the tilt-test patient presented the signs of pre-syncope as verticalization reached 60 degrees, showing rapid improvement on return to the supine position. Patient was diagnosed with acute vasovagal syncopes and qualified for the artificial cardiac stimulator implementation and observation regarding anxiety disorders.

Conclusions:

Despite a seemingly benign nature, syncopes may lead to life-threatening condition, thus requiring adequate medical attention. Management of such a patient requires interdisciplinary approach, as the probability of underlying cardiological condition should be taken into consideration. It should also be noted that the emotional state of the patient may influence the results of diagnostic tests or even aggravate the undesirable symptoms, thus posing a threat to the life and well-being of the patient.

Acute Compartment syndrome (ACS) of an upper limb caused by peripheral venous catheterisation in a 2.5-year-old pediatric patient

Author(s): Monika Kieraitė Vilnius University, Lithuania Presenting author: Monika Kieraitė Tutor(s): Lukas Balciunas

Introduction

Acute compartment syndrome (ACS) is known as a dangerous and painful condition which commonly happens to occur when excessive blood pressure constructs inside an enclosed, isolated area in the human body as a result of the injury or an acute trauma. As blood accumulates in the mentioned area called compartment and surrounded by tendons and ligaments, which are unable to expand efficiently, the inner pressure of the compartment rises, interrupting adequate blood flow to the muscles and joints. Such severe damage of the surrounding tissues may result in deprivation of body function or even cause a lethal outcome, especially in pediatric patients.

Case report

A 2.5-year-old male patient presented with fever, agitation, increased anxiety and acute pain in the upper left limb. The entire arm was found completely swollen, enormous pale spots were visible in the background of slightly red skin; the number of spots was rapidly increasing. As the patient was known to be hospitalised for the treatment of meningitis 20 days prior to the arrival, septic shock was suspected. WBC, CRP and other blood counts were, however, insignificant, and the damage was apparent only in the left upper limb. Subsequently, previously inserted intravenous catheter for antibiotic therapy in v. cephalica was suspected as a gateway of infection. Based on the conclusions of a vascular surgeon and clinical symptoms (pain, paresthesia, pulselessness, paralysis and pallor), diagnosis of an acute Compartment syndrome (ACS) due to an incorrect intravenous catheterisation was revealed. Therefore, an urgent surgery was performed. In a period of 3 months, the limb was remarkably healed and its function was completely regained.

Conclusions

When dealing with the patients suffering from acute pain, trauma may and should be not the only considerable cause of these complaints. Medical interventions as well as external injuries can trigger hazardous conditions requiring urgent surgical treatment, especially in pediatric patients.

Case study: Surgery

Coordinators:

Dominika Świerczewska, Michalina Wiwatowska,

Jury:

dr n. med. Łukasz Gwoździński, prof. dr hab. n. med. Dariusz Jaskólski, prof. dr hab. n. med. Andrzej Bieńkiewicz, prof. dr hab. n. med. Janusz Strzelczyk, dr n. med. Anna Kasielska- Trojan,

A surgical case of severe Crohn's disease

Author(s): Joanna Łosińska Medical University of Lodz, Poland Presenting author: Joanna Łosińska Tutor(s): Michał Mik

Introduction:

Crohn 's disease is a chronic inflammatory process of unknown aetiology. Lesions are full-walled and can affect any part of the digestive tract. They are most often located in the small intestine and colon. One of the symptoms of the disease is the formation of intestinal fistulas.

Case report:

In November 2016 the 28-year-old female patient was admitted to the Department of General and Colorectal Surgery of the Medical University of Lodz for surgical treatment because of symptoms of severe exacerbation of Crohn 's disease.

In 2013 the patient underwent ileocecal resection with intestinal anastomosis in the course of the disease. Intraoperatively she was diagnosed with an inflammatory tumour in the region of the anastomosis, the small intestine was inflamed throughout its entire length, and numerous internal intestinal fistulas were found: interloop small intestine, intestinal-urinary bladder, between the small intestine and transverse colon, and between the sigmoid colon and pre-sacral space.

Fistulas were dissected and wall were sutured by strickureplasty with the Heineke-Mikulicz method. An inflammatory tumour was removed with end ileostomy.

On the second day after the operation the patient presented signs of digestive tract perforation and she underwent reoperation (the perforation of small intestine).

Over the next 24 hours the patient had to be re-operated again due to a second perforation of the small intestine. On the seventh day after the index surgery the intestinal fistula was suspected. The patient was re-operated and the sigmoid wall sutures leakage was visualized. In the postoperative period intestinal fistula re-appeared, the amount of intestinal leakage <200 ml / day without the characteristics of infiltration and collection in the peritoneal cavity. The patient was treated conservatively. Total parenteral nutrition was implemented and was continued for the next 3 weeks. Closure of the intestinal fistula was achieved.

In 2019 the patient was admitted to the Department twice in an emergency surgery mode due to exacerbations of the disease and signs of benign obstruction for conservative treatment.

Discussion:

The percentage of early postoperative complications in patients with Crohn 's disease is estimated to be around 9 to 19%. The type of intervention must be tailored to the patient. The degree of clinical exacerbation and the extent of the gastrointestinal tract involved has a significant impact on the percentage of postoperative complications.

A case report of glioblastoma developed post-traumatic brain injury

Author(s): Dominykas Stankevicius, Raimondas Juskys Vilnius University, Lithuania Presenting author: Dominykas Stankevicius Tutor(s): Zilvinas Chomanskis

Introduction: There is much debate about the relation between brain traumatic injury (TBI) and the development of secondary malignant brain tumor. While a few experimental analyses support such association, some other epidemiological studies conclude contrary results. The following report aims to present the case of glioblastoma multiforme which developed post-traumatic intracerebral hemorrhage (ICH). We will also review the literature considering the link between brain injuries and such malignancies.

Case report: The patient was 51 years old male with a history of moderate TBI in 2015 due to a car accident. After the event, he was urgently transported to the local hospital with the Glasgow Coma Scale (GCS) of 10. Head CT was performed which showed a left-sided frontoparietotemporal ICH with the midline shift of 8 mm. The emergent frontotemporal craniotomy was performed, and the hematoma was removed. Post-operative head CT was performed and showed only a 3 mm shift with fragments of hematoma left. Eventually, patient's condition improved, and he was discharged for rehabilitation after 14 days with a GCS scale of 15, minor hemiparesis and mild motor aphasia. In 2017 due to sudden headache, right-sided weakness and altered mental status the patient was referred to the same hospital, where neurological examination concluded 12 GCS score, complete motor aphasia, and right hemiplegia with a positive Babinski reflex. A head CT scan was performed which showed an atypical image of ICH in the left parietotemporal area, hence the contrast-enhanced MRI followed up which revealed a heterogenous, contrast-enhancing mass in the left hemisphere. A stereotactic biopsy of the neoplasm confirmed the diagnosis of glioblastoma. The surgery was not performed as the cancer was in an advanced stage and the patient was sent home to recover before palliative chemotherapy. Due to worsening condition, the patient died 4 weeks after the biopsy.

Conclusions: The evident relation between TBI and brain cancerogenesis in scientific literature remains uncertain. Large-scale epidemiological studies deny such a link. However, some molecular gliomagenesis-focused studies, conclude the association between inflammatory response and neoplastic proliferation. For this reason, we believe that such relation cannot be totally ruled out and further investigation is needed.

Pulmonary artery coil embolization prevented tumor progression in a patient with advanced squamous cell lung carcinoma

Author(s): Viktorija Gurskytė, Ingrida Zeleckienė Elena Bernotienė, Sigitas Čibiras Vilnius University, Lithuania Presenting author: Viktorija Gurskytė Tutor(s): Virginija Sileikiene

Introduction. Squamous cell lung carcinoma (SqCLC) is a type of non-small-cell lung cancer (NSCLC), accounting for 25-30% of all lung cancer cases. The median survival of patients with advanced SqCLC receiving first-line platinum-based chemotherapy is 8 - 11 months. Here we present a rare case of long-term survival with metastatic SqCLC following chemotherapy and endovascular embolization of the right pulmonary artery with 33 coils due to massive hemoptysis. Case Report. In June 2007, a 49-year-old male was referred to a pulmonologist complaining of chronic non-productive cough, episodic fever and night sweats. A computed tomography (CT) scan revealed a centrally located mass in the right lung, invading the mediastinum and occluding the right lower lobe bronchus. Bilateral mediastinal lymphadenopathy was also present. An endobronchial biopsy of the mass was performed, which led to the diagnosis of SqCLC. Furthermore, the CT scan showed a hypovascular lesion in segment VI of the liver. Although no biopsy of the lesion was taken, it was considered as a possible metastasis based on magnetic resonance imaging. Thus, the SqCLC was clinically staged as cT4N3M1 (stage IV). Soon after the diagnosis, the patient experienced pulmonary hemorrhage, which was managed by surgically obturating the intermediate bronchus and performing embolization of the right pulmonary artery using 33 Gianturco 3 - 8mm diameter coils. The patient also received chemotherapy in 2007 and 2009 with little effect on the radiological tumor appearance. From 2009 to 2019, 3 biopsies of the lung tumor were performed due to radiological changes suggestive of SqCLC progression, i.e. occurrence of several new pulmonary lesions and increased primary tumor volume. However, only excess connective tissue formation with no SqCLC cells was observed in the tissue samples. Since 2011, the hepatic lesion has not been visible on imaging. In January 2020, a positron emission tomography (PET) scan showed no pathological metabolic activity in the lungs and liver. Currently, the patient remains in a stable clinical condition with a good performance status. Conclusions. We demonstrated a case of a patient with advanced SqCLC who has already survived for nearly 13 years after the diagnosis. We speculate that pulmonary artery coil embolization resulted in locally impaired angiogenesis, which led to tumor cell death. Therefore, we suggest that coil embolization of tumor-feeding arteries should be considered as a potential treatment method in patients with SqCLC and other histological types of NSCLC.

Mirizzi syndrome complicated by common bile duct fistula

Author(s): Weronika Lebowa Jagiellonian University Medical College, Poland Presenting author: Weronika Lebowa Tutor(s): Jakub Kenig

Introduction:

Mirizzi syndrome is a rare complication of chronic cholecystitis, usually caused by gallstones impacted in the cystic duct or the neck of the gallbladder. Mirizzi syndrome results in compression of the hepatic duct or fistula formation between the gallbladder and common bile duct (or hepatic duct). Clinical features include abdominal pain, fever and obstructive jaundice. The reported incidence ranges from 1% to 2% of patients with symptomatic cholelithiasis. Although the incidence of Mirizzi syndrome is low, treatment is troublesome, so among the causes of complications of biliary tract surgery, Mirizzi syndrome is an important one.

Case report: A 43-year-old male was admitted to the Department of General Surgery for elective cholecystectomy. He had been diagnosed as having cholecystolithiasis 4 months previously. At that point, he had a 4-day episode of severe sustained epigastric pain after eating greasy food, which resolved after using an easily digestible diet. On admission the patient presented with slightly jaundice and no pain. Ultrasonography showed a gallbladder with a thickened reactive wall and 1.8 cm stone in the neck. The patient 's laboratory findings suggested abnormal liver function with elevated levels of alanine aminotransferase (308 U/L), aspartate aminotransferase (381 U/L), and total bilirubin (93.4 mmol/L). ERCP revealed dilatation of the extra and intrahepatic bile ducts with constriction of section of common bile duct. Abdominal CT showed slightly enlargement of the liver and chronic cholecystitis with biliary tract compression. According to increasing pain, jaundice and rising inflammatory parameters the patient was qualified for accelerated surgery. Endoscopic surgery was converted to laparotomy due to the large inflammatory infiltration and adhesions. Surgical findings included cholecystobiliary fistula involving up to two-thirds of the circumference of the common bile duct, hepatic parenchyma atrophy and hepatic abscessus. The patient was categorized as having Mirizzi syndrome type III, based on the Csendes classification. The subtotal cholecystectomy was performed, then the gallstone was removed from the common bile duct. A T-drain was inserted into the common bile duct and the fistula was sealed with single sutures. Control ERCP revealed normal biliary tracts contrast and free passage of contrast to the duodenum. The postoperative course was uneventful, and the patient was discharged on day 11 after surgery.

Conclusions: Cholecystolithiasis is a common disease that surgeons encounter in everyday clinical practice. It is most often easy to diagnose and treat, usually by laparoscopy. However, Mirizzi syndrome as a rare complication of gallstones remains a diagnostic challenge and often requires laparotomy, especially in type III or IV. Although Mirizzi syndrome is a relatively rare in patients with symptomatic cholelithiasis, it should be ruled out in patients with fast-growing parameters of jaundice.

Corpus callosotomy for super-refractory seizures in genetic 16p12.2 microdeletion epilepsy

Author(s): Greta Kygaitė Vilnius University, Lithuania Presenting author: Greta Kygaitė Tutor(s): Lukas Balciunas

Introduction

Super-refractory status epilepticus (SE) is a continuous or recurring SE despite 24 hours of general anesthesia and should be considered a medical emergency due to high mortality and morbidity. Corpus callosotomy has been used as a form of surgical palliation for patients suffering from medically refractory generalized seizures and has been subsequently demonstrated to be sufficient for reducing generalized seizures.

Case report

A 43-year-old patient presented with status epilepticus. The patient has been diagnosed with genetic tonic-clonic seizures at the age 5 with 16p12.2 microdeletion. 5-day treatment by inducing general anesthesia with midazolam and propofol, administration of topiramate, levetiracetam, lamotrigine, valproate, clonazepam, thiopental, ketogenic diet showed to be unsuccessful to manage status epilepticus. The patient recovered from SE after receiving full corpus callosotomy but intermittent solitary seizures were still observed and sensible contact with the patient was not achieved two months after the surgery.

Conclusions

Super-refractory status epilepticus is a rare and difficult to manage condition that should be treated promptly and aggressively due to risk of neuronal damage and long-term disability. Corpus callosotomy is an effective treatment method of medically refractory epilepsy in order to receive seizure reduction and improve the quality of life. Most common side effects include speech irregularities, mutism, problems controlling non-dominant hand and should also be put into consideration.

RARELY COMMON TYPE IV PARAESOPHAGEAL HERNIAS IN PATIENTS WITH CONCOMITANT DISEASES: A CASE REPORT"

Author(s): Beate Jursevska, Dagnija Salmina Alise Emma Cakarne Riga Stradins University, Latvia Presenting author: Beate Jursevska Tutor(s): Zane Straume

Introduction: In different literature sources paraesophageal hernias (PEH) comprises from 5% to 10% of all hiatal hernias (HH). Symptoms are wide ranging and patients with PEHs are often labeled as asymptomatic or minimally symptomatic. Higher mortality rates are related to type III or IV hernias in elder patients with concomitant diseases. Thereby diagnostic of PEH can be challenging with high risk of reduced quality of life and fatal complications due to late onset diagnosis.

Case report: A 69 years old woman was diagnosed with schizophrenia in 2006 and in the past years has not taken any prescribed medication. Due to lack of eating and talking for 2 weeks, on 5 th December 2019 she was hospitalized with primary diagnose - acute cerebral ischemia. A head CT scan revealed only bilateral mastoiditis. Chest x-ray showed type IV PEH. On 6 th December 2019 chest CT scan showed wide retrocardiac HH with gastric inflammation in hernial sac and compromised right lower pulmonal lobe. After a thorough evaluation and physical examination, indications for acute operative treatment were not found. Patient was stabilized and started to eat and drink, although refused to take any further diagnostic tests. After repeated consultations with different specialists, a decision was made to compensate psychiatric condition followed by elective surgical PEH treatment. Diagnostics of PEH was delayed due to complicated background of concomitant diseases.

Conclusions: Not all PEHs presents symptomatic. Asymptomatic type IV PEH diagnostics may be challenging. This case report presents rarely common type IV PEH in patient with concomitant diseases which demands multidisciplinary approach. The major issue in clinical decision-making in PEH concerns the assessment of symptoms, where late onset diagnosis may lead to reduced quality of life and fatal complications.

Is Mycobacterium abscessus infection a judgment in a patient with cystic fibrosis after lung transplantation

Author(s): Maria Królikowska, Małgorzata Kowacka Marcelina Łazaj Medical University of Silesia in Katowice, Poland Presenting author: Damian Maruszak Tutor(s): Marek Ochman, Maciej Urlik Mirosław Nęcki, Tomasz Stącel

Introduction:

Non-tuberculous mycobacteria (NTM) are often only saprophytes that colonize the respiratory tract, gastrointestinal tract and genitourinary system and are pathogenic mainly for people with immunodeficiency. Airways of approximately 20 % patients with cystic fibrosis CF are colonized with NTM resistant to many anti-mycobacterial drugs. Treatment of mycobacteriosis caused by M. abscessus fails in many cases despite the use of multi-component antibiotic therapy.

Case report:

37- year old man, with CF diagnosed in age of 10 years. CF was complicated by gastroesophageal reflux disease, grade 1 esophageal varices, cystic fibrosis-related diabetes (CFRD) and exocrine pancreatic insufficiency. The patient underwent several recurrent respiratory tract infections complicated by hemoptysis and recurrent pneumonia. Patients respiratory test's results

during qualification to lung transplantation- FEV1=20%, FVC=42% in spirometry and desaturation from 96% to 80% in 6 Minute Walk Test confirmed limited lung ventilation reserves. Lung transplantation was performed after 2 years from the qualification. In the post-transplant period Mycobacterium abscessus was grown from the material collected during the bronchoscopy which required reduced immunosuppressive treatment to two-component therapy: tacrolimus and prednisolone, what is extremally dangerous for patients after transplantation.

Mycobacteriosis was treated with triple therapy consisting of azithromycin, imipenem and tigecycline. Due to decreased immunosuppressive therapy after two months Klebsiella pneumoniae ESBL and Enterecoccus faecalis alert strains were grown in culture from bronchoalveolar lavage.

One year after the diagnosis of mycobacteriosis the patient was cured of all infections however, months of treatment resulted in severe pulmonary deterioration (FEV1= 37%, FVC= 92%). As a result the patient required laser and balloon bronchodilation which had an effect in spirometric parameters improvement (FEV1=67%, FVC=105%).

Conclusions:

As respiratory failure is the most common cause of death in CF, respiratory functional parameters have the highest prognostic value. M. abscessus infection along with recurrent respiratory tract infections is associated with a severe decrease in respiratory function and requires constant monitoring. What is more, multiple organs damage caused by CF results in restricted eradication of infection and post-transplant immunosuppressive therapy requires modification due to mycobacteriosis therapy.

Are all patients with Fournier's gangrene eligible for hyperbaric oxygen therapy?

Author(s): Agata Wójcik Nicolaus Copernicus University in Toruń, Poland Collegium Medicum in Bydgoszcz, Poland Presenting author: Agata Wójcik Tutor(s): Adam Ostrowski, Janusz Tyloch

Introduction

Fournier's gangrene (FG) is a necrotizing, life-threatening fasciitis of the perineal, genital and perianal region which can spread to the abdominal wall, causing soft-tissue necrosis and sepsis. It is a rare condition with an incidence of 1.6 cases per 100 000 males per year and the male:female ratio is about 10:1, if the starting point is in the perianal region. The mean age of patients with FG is 50.9 years. Mortality ranges from 4% to 80%. Several urogenital and anorectal diseases, as well as diabetes mellitus and conditions associated with the immunosuppressive reaction, may predispose an individual to the development of FG. The treatment mainly involves aggressive surgical debridement, broad-spectrum antibiotic combinations and hyperbaric oxygen therapy.

Case report

A 70 years old patient checked into the hospital with testicle's oedema that had persisted for 12 hours. The patient had diabetes mellitus and advanced, metastatic lung cancer. Physical examination revealed: oedema of the scrotum and penis, black skin in the perineal region, crepitation, pain and intense odour. Patient was directly referred from hospital emergency to a septic operating room. There, the resection of the penis and scrotal skin was undertaken to the margin of healthy tissues. During the surgery, an inflammatory infiltration of both epididymis was detected. Next, due to that infiltration, the testicles were resected. The patient also had an infiltration of the anal sphincter. Thereafter, in the course of the treatment, an intestinal stoma was formed. Then, local treatment was applied. After the patient's general condition had stabilized, the reconstruction of the perineal region was made. The photo documentation of that reconstruction will be shown during the presentation.

Discussion

FG is a life-threatening condition, in which fast diagnosis and multidisciplinary treatment are highly significant. Tissue necrosis can develop within a few hours. Hyperbaric oxygen therapy (HBO) is a therapy supporting treatment of FG. Increased oxygen concentration may lead to a direct toxic effect on some anaerobic bacteria. Hyperoxia improves collagen formation, fibroblast growth and angiogenesis, which also enhance wound healing. Additionally, HBO enables a more accurate demarcation between healthy and necrotic tissue, which allows for more precise debridement. Nonetheless, the patient was not qualified to HBO treatment because of advanced and metastatic lung cancer. Some studies show that HBO is able to attenuate hypoxia-induced malignancy in lung cancer cells, evidenced by reduced LDH activity, migration and invasion as well as decreased apoptosis resistance of cancer cells.

Post Pneumonectomy Empyema with bronchopleural fistula after a gunshot.

Author(s): Kajetan Kiełbowski Pomeranian Medical University, Poland Presenting author: Kajetan Kiełbowski Tutor(s): Bartosz Kubisa

Introduction

Pneumonectomy is a radical procedure with multiple complications that may develop. One of the rarest one is post pneumonectomy empyema (PPE) that establishes on a stump of a bronchi. This can lead to bronchopleural fistula (BPF) which might be a life-threatening state of the patient, as there is a risk of developing sepsis. This state is exquisitely challenging for thoracic surgeons, considering limited cardiopulmonary reserve of the patient and difficulty for the fistula to close. Firstly, drainages are being used, but if empyema is too large or it does not provide an improvement, open window thoracostomy is performed. If this technique does not provide expected results as well, radical thoracoplasty has to be performed.

Case Report

In 1970 a 20-year-old male soldier was shot during military pursuit and as a result of massive bleeding right pneumonectomy was performed. Postoperatively, empyema of right pleural cavity appeared. The treatment involved chloramine rinsing and two drainages of the right pleural cavity. The empyema recurred with bronchopleural fistula (BPF) and in 2009 partial right thoracoplasty was performed to fractionally obliterate empty pleural cavity. During that time, he was also infected with Pseudomonas aeruginosa. The patient has been travelling between several surgery centers in Poland and in 2017 he was admitted to the Department of Thoracic Surgery of Pomeranian Medical University in Szczecin for bronchial myoplasty, which was performed on 17.07.2017. In April of the following year, the patient was admitted once again for plastic surgery of the skin around the wound from myoplasty procedure.

Conclusions

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Post Pneumonectomy Empyema in a pleural cavity is a rare complication that has to be sterilized which is challenging, because of limited space and lowered cardiopulmonary reserve of the patient.

Bronchopleural fistula is a serious condition which requires long-term treatment to close, as it protects the patient from further complications, such as sepsis.

Implantation of simple ovarian cysts cells into the peritoneum during laparotomy - a possible explanation of diagnostic ultrasound finding?

Author(s): Kaja Pelar, Klaudia Nowak Medical University of Silesia, Poland Presenting author: Kaja Pelar Tutor(s): Fryderyk Zawadzki, Marta Wajda-Pokrontka Marek Ochman

Introduction

An oophorectomy, which is an ovary removal surgery, can be performed applying laparotomic techniques. In this surgical approach, the surgeon makes one incision in the patients' lower abdomen to obtain access to ovaries. Then, after ligation of vessels and soft tissue dissection removal of the ovary is made. Possible complications of this procedure are the spread of potentially cancerous cells and implantation within the peritoneal cavity as well as the formation of wound metastases in the abdominal wall.

Case report

The case of an asymptomatic patient who in a routine examination showed a two-chamber simple cyst (dimensions: 44x46x41mm) that was placed on the peritoneum. The finding has an artery and a vein seen in Power Doppler imaging. The pathology does not cause pain and is not accompanied by any other abnormalities such as hormonal disorders or an increase in the concentration of tumor markers in the blood. It is speculated that the lesion originates from previously removed ovaries in laparotomy procedure, the remains of which may have implanted in the peritoneum. The cause of the operation were bilateral cysts of the ovaries. Other, previously undergone, operations include radical hysterectomy due to fibroids, abdominal hernia surgery, conservative myomectomy, two cesarean sections, and hiatal hernia surgery.

The patient has regular gynecological follow-up visits, undergoes ultrasound scans and tumor markers are regularly tested (ROMA test - CA125 and HE4). Taking into account frequent abdominal surgeries such as ovariectomy and hysterectomy, the fact that the patient has polypropylene mesh implantation and anesthesiological contraindications, the implant, inferred to be benign, is not qualified for the removal.

Due to anesthesiological contraindications (many operations in the past, 88 kg weight with a height of 170 cm) and implantation of the polypropylene mesh, further surgical interventions are held back.

Conclusion:

It is possible to implant simple cyst cells from organs of the abdominal cavity and ovaries into the peritoneum during laparotomy. The most probable origin of the cyst are ovarian cells. Regular gynecological follow-up visits in patients with extensive medical history are essential in preventing life-threatening progression from occurring.

The pregnant patient with nonclassic congenital adrenal hyperplasia

Author(s): Karolina Zeman, Marta Kochanowska Jagiellonian University Medical College, Poland Presenting author: Karolina Zeman Tutor(s): Magdalena Nowak

Introduction: Nonclassic congenital adrenal hyperplasia (NCAH) is an autosomal recessive condition affecting the adrenal glands. It results in lack of one of the enzymes involved in hormonal transformations and it can manifest as a metabolism disorder. NCAH during pregnancy is a rare condition. Women often struggle with infertility.

Case report: A 28-year-old primigravida with NCAH (21-hydroxylase deficiency) was admitted at 37+4 week of gestation (WOG) to Department of Obstetrics and Perinatology University Hospital in Cracow in the first stage of labor. The course of pregnancy without complications. During the pregnancy the levels of electrolytes were monitored - within normal limits (WNL). From 6th WOG the patient was treated with dexamethasone and the treatment was continued until 33 WOG. The patient delivered without any complications and was discharged with newborn on the 6th day after delivery in good general condition.

A female newborn, delivered in longitudinal-occipital presentation, naturally in a good condition, weight 3360 g, length 53 cm, Apgar Scale 10, physical examination, female urinary and reproductive organs WNL. During hospitalization the levels of glucose and electrolytes were controlled. On the 4th day of life, the newborn was subjected to phototherapy due to hyperbilirubinemia 293 umol/l.

Conclusions: Women with NCAH might struggle with infertility and are at higher risk of preterm delivery. Because of complications in newborns, woman should be treated with steroids at a very early stage of pregnancy to prevent intrauterine virilization of an female fetus who might inherited the disease. Precise complex examinations of infants ought to be carried out right after birth.

Acute pulmonary embolism by amniotic fluid - a rare complication of perinatal period which should not be forgotten. Case Report

Author(s): Agnieszka Palus Medical University of Warsaw, Poland Presenting author: Agnieszka Palus Tutor(s): Mateusz Jermakow, Piotr Bienias

Background

Amniotic fluid embolism (AFE) is a type of pulmonary embolism that occurs when amniotic fluid enters the maternal circulation during delivery or postpartum. The main symptoms are dyspnoea, cardiovascular collapse, disseminated intravascular coagulation, and even sudden cardiac death. The pathophysiological mechanism is not clearly elucidated. The AFE can be confirmed by excluding other diagnoses, especially pulmonary thromboembolism.

Case report

A case of 28-year old woman was admitted to obstetric ward d uring first stage of labour. She was at 37+5 weeks of gestation in the first and uncomplicated pregnancy. Due to a rapid deterioration of maternal condition with acute respiratory distress symptoms, an emergency caesarean delivery was performed. A foetus was born in critical condition having a low Apgar score. Disseminated intravascular coagulation with elevated D-dimer $(6300~\mu~g/l)$, low fibrinogen (<50~mg/dl) and thrombocytopenia $(67x10~\hat{9}/l)$ was also occurred.

The next day after the delivery, the patient was referred to the cardiac invasive care unit with acute pulmonary embolism suspected. An echocardiography revealed signs of right heart chambers overload due to acute pulmonary hypertension (RVSP 37 mmHg). However, CT angiography did not revealed thrombi in any pulmonary artery. In addition, abdominal CT showed haematoma in peritoneal cavity and pathological fluid within vaginal walls.

The rapid administration of intravenous (IV) fluids and proper oxygenation were provided. She also received the IV bolus of unfractionated heparin and blood components transfusion. The patient was discharged a few days later after stabilization of medical condition and referred back to obstetric ward.

Conclusions

The AFE is largely unpredictable, unpreventable and typically catastrophic complication of pregnancy. It is important to recognize the clinical characteristics of AFE summarily.

An immediate multidisciplinary response, especially the rapid correction of maternal hemodynamic instability and oxygenation, is essential to optimize patient outcome and minimize morbidity and mortality.

Successful pregnancy following valve-sparing reoperation for failed the Ross procedure

Author(s): Kamilė Gerulytė Lithuanian University of Health Sciences, Lithuania Presenting author: Liveta Sereikaitė Tutor(s): Dainius Karciauskas

BACKGROUND

Women of childbearing age due to aortic valve disease presents a particularly challenging population, as prosthetic valves substitutes pose significant problems during pregnancy. Mechanical valves require anticoagulation with coumadin that pose risk to the fetus (teratogenic effect). Aortic valve replacement through the Ross procedure offers a living valve substitute that provides hemodynamics and freedom from live long anticoagulation therapy. The main concern after the Ross procedure is reoperation on the autograft, as a result of progressive root dilation and autograft insufficiency. Autograft valve-sparing surgery using David's reimplantation technique at reoperation preserve and prolong the advantages associated with Ross procedure. This case describes a successful pregnancy following valve-sparing reoperation for failed the Ross procedure.

CASE REPORT

A 27-year-old patient ten years ago had a Ross procedure due to bicuspid aortic valve disease (stenosis). Autograft valve function was stable for up to 10 years postoperatively until severe recurrent aortic regurgitation was detected. Echocardiography evaluation has shown a dilation of the autograft and severe aortic regurgitation ($\geq 3+$). In this case, the David's procedure was used to repair and restore the autograft valve function. After one year the patient became pregnant and successfully gave birth.

CONCLUSIONS

David's technique prolong autograft valve function without prosthetic substitutes and lifelong anticoagulation therapy thereby allows another safe option for young women to contemplate pregnancy.

Individualised surgical treatment of an advanced Gastrointestinal Stomal Tumour - case report

Author(s): Jakub Pytlos, Anna Szuchnik Medical University of Warsaw, Poland Presenting author: Jakub Pytlos Tutor(s): Tomasz Olesiński

Introduction:

Gastrointestinal stromal tumours (GIST) are the most common mesenchymal gastrointestinal tract neoplasms. They usually localize in the stomach or small intestine, originating from the interstitial cells of Cajal, which play a crucial role in autonomous gastrointestinal movement. They represent a wide spectrum of changes ranging from small and benign to highly aggressive and massively metastatic. As the symptoms of GIST are non-specific, many patients do not seek proper medical help until the neoplastic process reaches its metastatic stage.

Case report:

In this study we present a case of a 55-year-old woman, who was referred to our clinic with a 3-months history of discomfort in the abdominal region. PET-CT scan revealed massive neoplastic infiltration of the gastric wall, as well as peritoneal and hepatic metastases. Immunohistochemical staining of a tissue from a biopsied liver metastasis confirmed the presence of the markers characteristic for GIST including CD117 and DOG1.

As a radical operation was not possible, continual chemotherapy with imatinib was administered, however, in two years' time, the neoplasm became immune to the medication and progressed. Furthermore, control gastroscopy showed a spot of changed tissue on the inner surface of the stomach associated with the large, submucosal tumour. Second-line treatment with sunitinib was introduced, yet there were no signs of remission and CT revealed that a fistula in the damaged gastric wall has developed. In order to prevent the symptoms wedge resection of the stomach with primary tumour was performed. No complications were noted. After the surgery patient's condition improved and CT with contrast performed 3 months later confirmed further shrinking of the tumour.

Conclusions:

GIST, while it might be asymptomatic, is a dangerous disease and may lead to serious complications. Effective therapy of such a condition requires balance between surgical and chemotherapeutical treatment. In similar case, salvage surgery might create a chance for the patient to return to the targeted therapy.

High-risk labor in a patient with placenta percreta - a case report

Author(s): Joanna Radwan, Karolina Zeman Jagiellonian University Medical College, Poland Presenting author: Joanna Radwan Tutor(s): Magdalena Nowak

Introduction:

Placenta percreta is an extremely serious health condition where placenta grows not only into the walls of the uterus but also through it, invading adjacent organs, for example, urinary bladder.

Case report:

33 y/o G6 P4 female, status post two cesarean sections (2010, 2015), was admitted to the University Hospital in Cracow in 27 week of gestation (wog) with mild uterine bleeding. The pregnancy was complicated by placenta praevia invading anterior wall of the urinary bladder. During hospitalization, maternal and fetal well-being were monitored. The patient received 2 doses (2x12mg) of betamethasone i.m. for fetal lung maturation. Under general anesthesia in 34 wog elective cesarean section with peripartum hysterectomy was performed. The operation was complicated by massive hemorrhage and injury of the bladder. The injury was treated together with urology team, the ureters were catheterized, and Foley catheter was left in the bladder. The patient was treated with multiple blood and fresh frozen plasma transfusions. The female newborn was delivered in poor condition with no respiratory drive and heart rate above 100 bpm, weight 2300 g, length 51 cm, Apgar Score 4/5/7/8. The resuscitation was performed using a T-piece resuscitator (TPR) resulting in respiratory function recovery within 4 minutes. The newborn was transferred to the neonatal intensive care unit, where nasal continuous positive airway pressure (nCPAP) was applied. From day 2, the child was hemodynamically stable and remained closely monitored. On day 19 both mother and her child were discharged home in good condition.

Conclusions:

Placenta percreta is a condition that requires multidisciplinary cooperation. If accompanied by placenta praevia, placenta percreta may lead to numerous complications posing a huge risk for both mother and fetus.

Surprising example of importance of preoperative examination - case study

Author(s): Piotr Machowiec, Patryk Leszczyk Dominik Niemirski Medical University of Lublin, Poland Presenting author: Piotr Machowiec Tutor(s): Elżbieta Czekajska-Chehab

Introduction: Every surgery requires a series of diagnostic tests in order to find potentially significant risk factors that could have a negative effect on the course of planned medical procedures. Such an approach sometimes allows the detection of a disease that has not yet manifested any subjective symptoms and simultaneously may pose a threat to the health and life of the patient, demanding an urgent intervention.

Case report: A 39-year-old male patient, without prior history of cardiovascular disease incidents, was referred for an ECG as part of the routine tests before the planned surgery of inguinal hernia. In view of its vital abnormalities, ECG-gated CT was performed, subsequently showing the critical stenosis of the proximal and distal segment of RCA as well as critical stenosis of LAD, DIA1 and LCx. Eventually, coronarography confirmed the suspicious changes in the coronary arteries and two antiproliferative drug-eluting stents were implanted in LAD and LCx — one in each artery. The procedure went without complications.

Conclusions: The presented case is a clear example of the advisability of conducting comprehensive tests before surgery, even among group of young patients, without positive history. Basic elements of the preoperative examination, such as ECG, led to the detection of the patient 's polyvascular disease (which can lead to serious complications and is associated with high mortality) and enabled the application of appropriate treatment.

A 30-year-old woman with familial adenomatous polyposis and peritoneal inclusion cysts.

Author(s): Agata Natkańska Medical University of Warsaw, Poland Presenting author: Agata Natkańska

Tutor(s): Magdalena Bizoń-Szpernalowska, Krzysztof Cendrowski

Background

Peritoneal inclusion cysts (PICs) are benign multilocular cysts consist of fluid collected between intraperitoneal adhesions. Common risk factors include intra-abdominal inflammation and surgery in the past later than 6 months. The classic ultrasonography(USG) image shows a "spider-web" pattern. PICs treatment method is determined individually.

Case

A 29-year-old woman was admitted to Department of Obstetrics, Gynecology and Oncology in March 2019 due to general condition deterioration, ascites and lower abdominal pain.

At 14, she underwent proctocolectomy with ileal pouch-anal anastomosis (IPAA) because of familial adenomatous polyposis (FAP). 9 years later enucleation of the right ovarian cysts was done with damage of the small intestine due to peritoneal adhesions. Oral hormonal contraception was prescribed, which the patient stopped because of worse tolerance.

In 2014 patient suffered from intensification of pain, after two attempts at surgical enucleation of the cyst , the left adnexectomy was performed . The adnexa was completely changed into 3-locular cyst with diameter of 20cm . In 2016 patient conservative treatment was conducted because of pain and multilocular cyst with 10 cm diameter, in adhesions with right adnexa, with subacute intestinal obstruction. A six-fold drainage of recurrent peritoneal pseudocysts in nearest of the right ovary was done, obtaining 2-4.8 liters of fluid each time.

In March 2019 the CT and MRI showed ascites and a 4-locular tumor, measuring 25x17x35cm, with thickness of capsula - 2 cm and multiple thin septations.

Because of compression of big size of tumor appeared bilateral hydronephrosis. The abdominal cavity was punctured due to suspected ovarian cancer, obtaining 4 liters of bloody, cloudy fluid, without tumor cells in histopathology. Mini-laparotomy and 16-day suction drain was used because of increasing ascites. The patient was discharged in good general condition. No recurrence.

Conclusions

Peritoneal inclusion cysts should be considered in the differential diagnosis of abdominal pain and ascites in women after abdominal surgery. This issue requires continuation of multicentre, randomized clinical trials to find and standardize effective treatments for PICs.

Vasa praevia: a case repot of challenging delivery due to late diagnosis

Author(s): Auguste Butkeviciute Vilnius University, Lithuania Presenting author: Auguste Butkeviciute Tutor(s): Diana Ramasauskaite

Introduction

Vasa praevia is a rare condition with the prevalence of 0,6 per 1000 pregnancies. It occurs when fetal blood vessels that are unprotected by the umbilical cord or placenta run through the amniotic membranes and traverse the cervix. If membranes rupture, these vessels may rupture as well, with resultant fetal hemorrhage, exsanguination, or even death. Vasa praevia is identified during labor in most of the cases where vessels would have already been ruptured. Vaginal bleeding is followed by fetal distress and death if emergent delivery is not performed.

Case report

A 39 year old woman, 39 weeks and 6 days pregnant came into hospital for an elective labour induction due to gestational diabetes, and suspected fetal growth retardation. On admission she was diagnosed with oligohydramnios, the rest of abdominal ultrasound and vaginal examination being otherwise unremarkable. Since the birth pathways were ready for childbirth, the cervix being partially centered, soft, 1 cm, dilated 4-5cm, with amniotic sac not being ruptured, it was decided to induce labor by amniotomy. While performing amniotomy, vaginal bleeding began, about 150ml of fresh blood appeared. Suddenly fetal condition started to deteriorate, followed by bradycardia 70-85 times per minute. Suspected premature placental abruption, with abnormal fetal heart rate, led to a decision to terminate the pregnancy by emergency cesarean delivery. In merely 8 minutes a female newborn of 2380 g and 48 cm, with APGAR score of 4/7 was delivered. After the surgery, fetal blood vessel presentation (vasa praevia) was diagnosed, which was the explanation of fetal bleeding after the amniotomy and led to a critical newborn condition requiring blood transfusions and treatment in an ICU. Meanwhile, the patient had a smooth postpartum period. A pathological examination of placenta revealed velamentous cord insertion and perivascular hemorrhage in the umbilical cord.

Conclusions

Vasa praevia is a rare cause of antepartum hemorrhage which presents catastrophic complications to the fetus. Fetal loss can be reduced by prenatal diagnosis, made by using a transvaginal ultrasound scanning with color and pulsed Doppler, followed by an elective caesarean section. However, it is not routinely performed to every asymptomatic pregnant woman in Lithuania and this diagnosis is most often made after birth, as it happened in the presented case. Fortunately, if a cesarean delivery is performed immediately, good neonatal outcome can be obtained by aggressive postnatal transfusion.

Implantation of the leadless pacemaker in the young adult patient with repaired tetralogy of Fallot - case report

Author(s): Dominika Wiktor, Marta Jagosz
Anna Maciąg, Barbara Smyczek,
Szymon Wyrwas, Bartosz Bichalski
School of Medicine with the Division of Dentistry in Zabrze, Poland
Medical University of Silesia, Poland
Presenting author: Dominika Wiktor
Tutor(s): Ewa Jerzejczyk- Patej, Beata Średniawa

Introduction

Tetralogy of Fallot (ToF) being the most common cyanotic congenital heart disease accounts for 3-5% of infants with congenital heart defect. This disease consists of the following features: large ventricular septal defect, right ventricular outflow tract obstruction, right ventricular hypertrophy and overriding of the aorta. This combination of defects results in decreased level of oxygenated systemic blood. The treatment of choice remains surgery. However, there is the great risk of developing tachyarrhythmias and bradyarrhythmias in ToF patients.

Case report

We report the successful implantation of Micra TM Transcatheter Pacing System (Micra TPS, Medtronic, Minneapolis, MN, USA) in a 21-year-old patient with repaired ToF who was admitted to tertiary cardiology center in order to replace pacemaker, which she had inserted owing to sick sinus syndrome and II grade atrioventricular block during her second year of life. The Heart Team qualified the patient for leadless pacemaker implantation.

An access via right femoral vein was obtained with 23 Fr sheaths. Micra was fixed into upper part of the interventricular septum. Implantation was free of complications. During 2- year follow-up the patient was in general good condition with proper device parameters.

Conclusions

An implantation of a leadless pacemaker could be effective and feasible treatment of patients with Tetralogy of Fallot. Nevertheless, the Micra requires more clinical experience and studies with a larger cohort.

Keywords: Tetralogy of Fallot, Micra, leadless pacemaker, sick sinus syndrome, congenital heart disease

Middle meningeal artery embolization as a treatment for chronic subdural hematoma

Author(s): Nikita Titov, Maria Katkova Andrei Kopaev, Magomedrasul Bagomedov Pirogov Russian National Research Medical University, Russia Presenting author: Nikita Titov Tutor(s): Dmitrii Paskhin

Introduction:

Chronic subdural hematoma (CSDH) is a very common neurosurgical problem especially among elderly patients due to their tendency for head trauma and widely prescribed anticoagulant and antiplatelet therapy. Endovascular intervention is the sole treatment aimed at the pathogenesis of CSDH. This case report describes the first experience of using this method in Russia.

Case report:

A 78-year-old male patient was admitted to the Department of Neurosurgery. He complained of weakness of the right arm and right-sided body numbness and also mentioned having a head injury a month before. The patient constantly gets dual antiplatelet therapy after coronary artery stenting. On admission, a CT scan was performed and a midline shift rightwards and inhomogeneous content in the left subdural space were revealed. An emergence burr-hole procedure was performed, nearly 100 cm3 of fluid was evacuated. Follow-up CT showed a left-sided subdural hematoma again in the same volume, which was managed by another craniostomy. Within the month patient had been repeatedly presented to the hospital complaining of excruciating headaches. CT-scan revealed recurrence of the subdural hematoma. Due to the lack of prospects of neurosurgical management the medical council was decided to embolize a middle meningeal artery (MMA). According to the last scientific data CSDH enclosed into a capsule which is the source of micro-hemorrhages and fluid exudation. MMA supplies a capsule with the blood and an embolization interrupts the communication. Polyacrylamide microspheres in size 300-500 microns were introduced through a microcatheter in the MMA through the access of the femoral artery. The postoperative course was favorable. Five months after discharge a control CT scan showed a complete recovery.

Conclusions:

Thereby, we believe that MMA embolization is a minimally invasive, perspective and pathogenically based approach for CSDH.

A rare case of extracranial internal carotid aneurysm

Author(s): Julia Tomys, Katarzyna Stadnik Patryk Zawalski Nicolaus Copernicus University in Toruń, Poland Collegium Medicum in Bydgoszcz, Poland Presenting author: Julia Tomys Tutor(s): Arkadiusz Migdalski

Introduction:

Extracranial internal carotid aneurysms (EICA) account for less than 1% of peripheral arterial aneurysms. Internal carotid arteries in the extracranial segment (EICA) account for between 0.4% and 4% of them. Atherosclerosis and neck injuries are the most important etiological factors. The presence of an aneurysm may be indicated by neurological disorders (CVA - cerebrovascular accident , TIA - transient ischemic attack), expanding, pulsating mass in the neck and cranial nerves dysfunction. The absolute indication for surgery are symptomatic aneurysms and those with diameter > 20mm. In 70% of cases, inoperative aneurysms lead to ischaemic brain strokes.

Case report:

A 58-year-old man was admitted to the Neurology Clinic due to exacerbation of dizziness and vomiting. An angio-CT examination of the carotid arteries revealed, at the height of the C1 jugular vertebrae, an aneurysm of the left internal carotid artery with diameter of 9 mm. The patient was redirected to the Clinic of Vascular Surgery and Angiology. A percutaneous implantation of the Roadsaver 5x30 vascular stent was performed. Control angiography showed no residual stenosis. The patient was discharged home in a good condition. During the follow-up visits to the Vascular Surgery Outpatient Clinic, he did not report any relapse, no postoperative complications were observed.

Discussion and conclusions:

There are no precise guidelines for the treatment of EICA. Both classical and endovascular methods are used. Additionally, antiplatelet and anticoagulation treatment with salicylic acid, dypiridamole and ADP receptor antagonists (prasugrel, ticagrelor, clopidogrel) is introduced. Conservative treatment is used in about 11% of cases and is characterized by higher 30-day mortality (4.67% vs. 1.91%) and risk of cardiovascular events (6.67% vs. 5.16%) compared to surgical treatment. Endovascular procedures are performed in about 5% of cases. In a few publications about endovascular procedures, they are characterized by a lower number of complications, especially those resulting from damage to adjacent structures such as nerves, and a lower number of subsequent cardiovascular events. They are particularly beneficial in patients with high location of the aneurysm and high perioperative risk. For the described patient endovascular surgery was chosen due to high location of the aneurysm. A good vascular effect was obtained and symptoms disappeared. No complications in 30-day observation were encountered.

Incidental Finding of Intracranial Dural Cyst in an Adult Patient: A Case Report

Author(s): Redwan Jabbar Medical University of Lodz, Poland Presenting author: Redwan Jabbar Tutor(s): Maciej Radek, Maciej Blaszczyk

Introduction: Cysts located solely within the dura mater are a rarity and found incidentally. The presence of such a cyst was confirmed by means of computed tomography and magnetic resonance and confirmed histologically in surgically obtained specimens of cyst wall.

Case Description: A 44-year-old male who presented with a polycyclic lesion of the left frontal lobe to our department with a history of left- beating nystagmus that was found incidentally on CT ordered by his otolaryngologist because of his current sinusitis. Computed tomography revealed a well-defined regular lobulated hyperdense lesion in the medial aspect of the left lobe partially with minor calcification. The lesion appeared as a homogenous intensity on magnetic resonance imaging (MRI) and without gadolinium enhancement features. Surgical resection was successfully performed using a bifrontal craniotomy (Sutara) approach because of familiarity with the approach. The frontal sinus was cranialized and the dura has been incised using intrahemispheric approach yellowish-white polycyclic lesion was visualized. The entire lesion was completely resided and was encased by saclike, stretched dura mater containing fatty and hairy tissues. The lesion was thought to be epidermoid cyst and teratoma because of the content and characteristic imaging appearance of the lesion. Histopathological findings revealed fibrous connective tissue consistent with dural cyst and the lesion was classified as a dural cyst. The patient's postoperative course was uneventful and was discharged from the hospital.

Discussion: Dural cysts are rare lesions and surgically curable tumors like other benign brain tumors with low growth potential. However, they must be considered in the differential diagnosis of the intracranial lesions. Because they are nonaggressive and can be safely drained by microsurgical techniques, patients have a favorable prognosis. However, early surgical intervention is crucial to prevent unforeseen severe neurological deficit. Multimodal neuroradiological examination can be useful to identify the exact localization, which is necessary to determine a surgical approach. The clinical features, neuroradiological strategies and management of the intracranial lesion are discussed.

Keywords: Dural cyst, frontal lobe, surgical intervention

Percutaneous transluminal angioplasty in the surgical treatment of patients with diabetic feet

Author(s): Liveta Sereikaitė, Simas Stiklioraitis, Monika Jasinskaite Lithuanian University of Health Sciences, Lithuania Presenting author: Simas Stiklioraitis Tutor(s): Raminta Indrasiute

INTRODUCTION

Percutaneous transluminal angioplasty (PTA) can be used to ameliorate tissue perfusion in ischemic diabetic feet. Nevertheless, there are concerns about its feasibility and efficiency in the severely ischemic diabetic foot. This case describes a successful diabetic limb preservation after PTA.

CASE REPORT

A 59 years old female patient who was diagnosed with type-II diabetes at age 36 two years ago worked in a garden and was injured. She was diagnosed with bullous erysipelas, ischemic diabetic foot. Her treatment included antibiotic therapy and left leg a.femoralis and a.poplitea sinistra PTA and a.tibialis anterior recanalization and PTA. Aspirin and clopidogrel were used for the prevention of restenosis. Dynamically, the condition was improving, with antibacterial therapy discontinued, however, in 2019.04, she was hospitalized in the Endocrinology department for the left foot I finger gangrene with a spread to the pad. On 2020.02 she underwent finger resection and necrotic mass removal. She was given antibiotic therapy unasyn 1.5 g x 4 i/v and sol. vancomycin 1 g x 2 i/v. During the multidisciplinary consilium, it was decided to remove part of I metatarsal bone in the left foot. 2020.03.15 reconstruction and necrectomy of the proximal end of I metatarsal bone in the left foot was performed. Currently, the left foot has an exuding ulcer.

DISSCUSION/CONCLUSIONS

Patients with diabetic foot remains a clinical and surgical challenge for surgeons. Primarily, peripheral revascularization aims to provide sufficient blood flow to relieve rest pain and facilitate skin wound healing. The results of PTA in diabetic patients have improved, with an acceptable limb salvage rate and perioperative mortality. However, even after successful revascularization local wound treatment must be continued and minor amputation might be performed if appropriate to defend limb salvage. As such, PTA can be an effective method for increasing tissue perfusion even in the severely ischemic diabetic feet.

Preputial Flap Urethroplasty - a Viable Alternative

Author(s): Evaldas Kauzonas Vilnius University, Lithuania Presenting author: Evaldas Kauzonas Tutor(s): Aivaras Grybas

INTRODUCTION

Due to the presence of numerous potentially damaging factors both in the general public and the hospital setting, damage to the male urethra and following urethral strictures are a common problem and may not only affect quality of life but also present with potentially fatal complications. While numerous methods of variable invasiveness have been developed for stricture repair, there remains a lack of an unequivocally superior technique, especially when faced with the challenge of long stricture repair.

CASE REPORT

A 26-year-old male with a medical history significant for smoking, uncomplicated genital trauma during childhood, an unspecified sexually transmitted disease, multiple past hospitalisations, and surgical interventions presented with urethral stricture. Though he had received treatment for pyelonephritis complicated by sepsis and was diagnosed with chronic urinary infection 3 years prior, the precipitating cause of the urethral stricture was determined to have been a urinary tract infection contracted 4 months before urethroplasty. Initial urethrography was unsuccessful due to complete meatal obstruction. A successful repeated attempt elucidated urethral meatostenosis with bulbar stricture. The bulbar stricture, 1cm in length and constricting the urethral lumen to 8Fr, was removed by cold knife visual urethrotomy. A longitudinal ventral incision of the distal urethra had to be performed to reach the stricture-free portion of the urethra for urethrotome insertion. The distal urethral stricture measured 4cm in length and the Jordan flap procedure was employed for preputial flap urethroplasty. A circular preputial incision was performed, followed by removal of the external preputial layer, carefully preserving the dartos fascia. The interior preputial flap, attached by a vascular pedicle of the dartos fascia, was then rotated and sutured to form the ventral urethral wall.

No complications were observed during or after surgery. Urethrography performed 2 weeks post-surgery showed adequate flow to the bladder and no extravasation of contrast medium.

Uroflow metry performed 3 months after surgery showed satisfactory results, with an average flow rate of 14.2 ml/s, Qmax 19.9 ml/s.

DISCUSSION

Though alternative methods such as buccal mucosa flap repair exist and have shown successful results, both skin and mucosa may be affected by conditions precluding their use for grafting. With the introduction of the transverse preputial island flap technique,

single-procedure repair of long urethral strictures by using the preputium became a viable option, its adoption perhaps having been hindered by the ever-changing trends in treatment modality popularity. Therefore, various methods of urethral repair should be combined in practice with consideration to case-by-case specifics, especially keeping in mind their comparable rates of success and postoperative morbidity.

Arterial Embolization: a Minimally Invasive Alternative Technique for the Management of Uterine Myoma

Author(s): Neringa Borodičaitė Vilnius University, Lithuania Presenting author: Neringa Borodičaitė Tutor(s): Jurate Peceliuniene

Introduction. Uterine fibroids, such as myoma, are one of the most common types of benign tumour, which affect about 40% of women aged over 35 years. Symptoms such as pelvic pain, hypermenorrhea are often associated with uterine fibroids and have a huge impact on the overall well-being of women.

Case report. In 2013, a woman aged 39 who had heavy menstrual bleeding went through a progesterone-realising intrauterine system (LNG IUS) implantation procedure. Standard transvaginal ultrasound (UT) examination was performed which showed asymptomatic 23 mm size intramural myoma on the back wall of uterus. UT was repeated in 2015 and growing myoma (3.0 x 4.0 cm) was diagnosed. UT was repeatedly performed in 2018 - myoma increased to 5.5 x 4.5cm size. Patient was disappointed because of her belief that LNG IUS must diminish her myoma. In 2019, the patient complained of lower part of pelvic pain. UT examination was repeated - myoma increased to a size of 6.4 x 5.3 cm. The gynaecologist recommended laparoscopic myomectomy due to large myoma size and pelvic pain, but the patient refused to undergo the surgery. 3 weeks after the LNG IUS removal, the patient had heavy menstrual bleeding that lasted 10 days and therefore she went for a repeated outpatient gynaecologist consultation. Since the patient had previously disagreed to have the surgery, myoma artery embolization was suggested as an alternative. Contrast magnetic resonance imaging was done in order to set a treatment plan. Intervention radiologist performed a right femoral artery puncture and selectively injected embolization particles by using microcatheter under spinal anaesthesia. After the procedure, the patient was in a good stable condition and no complications were observed. She was discharged from hospital next day.

Conclusions. Invasive procedures remain a primary approach to cure uterine fibroids, nevertheless patients may have high expectations for treating uterine fibroids with LNG IUS, which is widely used to reduce abnormal uterine bleeding. Myoma arterial embolization is a minimally invasive procedure with 90% success rate. Compared with classical laparoscopic surgery, myoma embolization requires no surgical incision or general anaesthesia with no blood loss during the procedure. Patients need less time to recover and return to normal life. In Lithuania, myoma embolization is reimbursed by the government but due to few skilled specialists, our report describes only the second patient who has been treated by this method in Lithuania.

Placenta Accreta Diagnosed by Magnetic Resonance Imaging (MRI) and Treated Conservatively

Author(s): Loreta Kavaliukaite Vilnius University, Lithuania Presenting author: Loreta Kavaliukaite Tutor(s): Nomeda Valeviciene

Introduction

Placenta accreta is an abnormal trophoblast invasion of the placenta into the myometrium of the uterine wall. The incidence is about 0.17% of all deliveries and nowadays is increasing along with the rates of risk factors, like previous Cesarean sections, advanced maternal age, placenta previa. Placenta accreta is the leading cause of postpartum haemorrhage resulting in maternal and neonatal morbidity.

Case report

36-year-old woman, gravida 2, para 1, with a history of Caesarean section, was admitted to a hospital at 31 weeks of gestation because of vaginal bleeding and lower abdominal pain. Ultrasonography findings were suspicious for placenta previa and placenta accreta, which were then confirmed by magnetic resonance imaging (MRI). Because of a good clinical course, pregnancy was continued and the patient was discharged from the hospital. On the 35th week of gestation vaginal bleeding recurred and it was decided to deliver the baby via C-section. Before the procedure, prophylactic internal iliac balloons were placed to reduce the haemorrhage. For placenta separation curettage was necessary. Six days postoperatively mother and the baby were discharged from the hospital without any complications.

Discussion/Conclusions

Peripartum hysterectomy has been a standard treatment for placenta accreta, because attempted placental removal may lead to massive bleeding. However, as the rates of placenta accreta are growing, conservative management is increasingly being used and it requires precise diagnostic measures.

This case emphasises the role of MRI in obstetric care. Although sonography is the primary diagnostic tool for placenta accreta, MRI is recommended in unclear cases or if high-risk factors are present, as it is more sensitive in detecting a degree of placental invasion.

In this case, MRI findings helped planning conservative management and enabled preserving the uterus as well as the fertility of the patient.

Extracorporeal membrane oxygenation support after surgical embolectomy for pulmonary embolism in high-risk patient.

Author(s): Szymon Salamaga Poznan University of Medical Sciences, Poland Presenting author: Szymon Salamaga Tutor(s): Bartłomiej Perek

Introduction

Massive pulmonary embolism is associated with high-mortality rate and optimal management remains challenging. Treatment options include thrombolysis, percutaneous and open surgical

embolectomy. Embolism-related cardiogenic shock increases significantly early mortality. In the refractory patients veno-arterial extracorporeal membrane oxygenation (V-A ECMO) may be considered as the salvage procedure when other interventions fail.

Case report

A 71-year old patient, with a history of coronary artery bypass surgery followed by numerous percutaneous coronary interventions and markedly decreased ejection fraction (EF 30%), was admitted to the emergency department with acute massive pulmonary embolism and emboli in the both atria. He was conscious but presented severe dyspnoea at rest. Open surgical embolectomy combined with thrombus removal from atria was performed. At the end of operation an excessive bronchial bleeding occurred and due to critical hemodynamic instability V-A ECMO was applied as a salvage procedure to treat both bleeding and cardiogenic shock. After surgery, renal replacement therapy was initiated due to end-stage renal failure. At the times of sedation cessation he presented normal neurological status. Unfortunately, despite maximal therapy, his clinical status was systematically deteriorating and eight days after surgery he died due to multi-organ failure.

Conclusions

High risk pulmonary embolism requires multidisciplinary approach regarding the best therapeutic option. Surgical embolectomy should be considered in the high risk patients and ECMO application might be taken into consideration in some of them, especially when hemodynamic instability occurs. Nevertheless even the most advanced and sophisticated methods even when applied emergently may fail in the most critical cases.

Cesarean scar pregnancy - case report

Author(s): Jakub Niziołek, Aleksandra Porzucek Justyna Żyga, Julia Perlak Medical University of Lublin, Poland Presenting author: Jakub Niziołek Tutor(s): Anna Drelich-Zbroja, Maciej Szmygin

Introduction

In 2017 in Poland about 44 percent of births were cesarean sections. This type of delivery may cause far complications like cesarean scar pregnancy (CSP). CSP is rare type of ectopic pregnancy (EP). It occurs among women after C-section in the past with frequency from 1:1800 to 1:3000. Due to low prevalence, there is no consensus about treatment techniques.

Case report

A patient, 35 years-old female, after 2 deliveries by C-section, came to gynecologist due to lack of mestruation. Laboratory tests showed increased beta-hCG level. Afterwards transvaginal ultrasound revealed implantation of the gestational sac in the scar. After consultation with interventional radiologist decided to perform uterine artery embolisation. Both, right and left arteries were embolised. During next 24 hours level of beta-hCG was constant and persitent fetal heart rate was observed. This was the reason to perform control angiography. Uterine arteries were successfully embolized but accessory vascularization of uterus by right ovarian artery was seen. In next step, this vessel was embolized. Control blood test and transvaginal ultrasound confirmed successful intervention. The patient was discharged after 6 days in good clinical condition.

Conclusions

CSP may be life-treatening condition, therefore appropriate treatment technique is required. There are many of options, but choice depends on patient's clinical condition and experience of treatment team. Uterine artery embolisation is minimally invasive intervention, however it is available only in highly specialized hospitals.

ENDOVASCULAR TREATMENT OF VEIN OF GALEN ANEURYSMAL MALFORMATION WITH ONYX EMBOLISATION SYSTEM AND PLATINUM COILS

Author(s): Toms Klinovics Riga Stradins University, Latvia Presenting author: Toms Klinovics Tutor(s): Karlis Kupcs

Introduction: The vein of Galen aneurysmal malformation (VGAM) is a rare congenital, cerebral, arteriovenous malformation of the embryonic choroid plexus. The malformation represents less than 1% of all arteriovenous malformations and less than 800 cases in total have been reported. Technological and technical advancements in diagnostics and endovascular treatment options have provided a more optimal clinical outcome of the disease.

Case report: Patient, two years old female, admitted to hospital for planned digital subtraction angiography (DSA) for diagnostic clarification, with a history of congenital hypertrophic cardiomyopathy, pulmonary hypertension and acute heart failure. Magnetic resonance imaging was performed during the first month of life, displaying a bulge in the pineal gland area, that raised suspicion of an arteriovenous malformation. During admission the patient showed signs of hydrocephalus, delayed speech development and ongoing headaches. DSA showed pathologically dilated and curved arteries, an arteriovenous shunt from a. cerebri posterior to v. Galeni and a drainage to the venous shunts. The diagnosis of VGAM was confirmed. Two months later, endovascular embolization of the VGAM was performed. During the procedure an arteriovenous malformation with a fistula and a gigantic aneurysm in the area of v. Galeni was observed. Total occlusion of the aneurysm and arteriovenous malformation was achieved. Patient was discharged of the hospital 4 days after treatment. A follow up DSA was performed one year after the procedure, showing a complete occlusion of the arteriovenous malformation with no signs of recanalization.

Conclusions:

A multidisciplinary approach is recommended, regarding the diagnostic and therapeutic complexity the disorder presents. The clinical case suggests that congenital heart defects combined with neurological disturbances can arise suspicion of vein of Galen aneurysmal malformation. Endovascular embolization represents the first choice of treatment and provides the best option for correcting the hydrodynamic disorder.

What is the role of plastic surgery techniques in cardiac surgery?

Author(s): Konrad Ruciński, Michał Wawrzyniak Szymon Salamaga Poznan University of Medical Sciences, Poland Presenting author: Konrad Ruciński Tutor(s): Karol Buszkiewicz

Background

Deep sternal wound infection (DSWI), following cardiac surgeries, is potentially life-threatening complication, because it can lead to mediastinitis, which entails longer stay in the hospital and higher mortality rate. The reported incidence of DSWI after operations with median sternotomy is 0,4 - 5%. In some cases multidisciplinary approach is required to provide effective convalescence. Current management involves wide variety of methods to properly heal DSWI including debridement, administration of culture-specific antibiotics, negative pressure wound therapy and plastic surgery procedures. In the presented case, the sternal wound was successfully filled with the abdominis rectus muscle flap.

Case report

A 61-year old Male was admitted urgently to the cardiac surgery department, due to STEMI recognition, in order to proceed coronary artery bypass grafting (CABG) surgery. Procedure was performed using the cardiopulmonary bypass and IABP was placed. After the operation dehiscence of the sternum occured, complicated by DSWI (coagulase-negative Staphylococcus and Klebsiella Pneumoniae) and mediastinitis. It was applied with Vacuum Assisted Closure (VAC) therapy and culture-specific antibiotics were used. This treatment was continued for 4 months with 3 attempts of closing the sternum. After the third closure, a pedicled muscle abdominal rectus flap coverage was performed. Additionally patient was attending hyperbaric oxygen chamber sessions for 30 days. Over the course of several weeks the wound was fully healed.

Conclusions

It is important to consider all known risk factors which can be minimized in the best possible way. However, what is more valuable, the proper multidisciplinary treatment must be applied. An appropriate contribution might have both surgical and non-surgical procedures implemented in the right time. Nevertheless, reconstructive and plastic surgery techniques are often considered as an evidence-based medicine treatment.

High grade well-differentiated cecum neurendocrine tumor diagnosed after hernia repair surgery

Author(s): Dominykas Stankevicius, Raimondas Juskys Vilnius University, Lithuania Presenting author: Dominykas Stankevicius Tutor(s): Anej Suchomlinov

Introduction: High-grade well-differentiated gastrointestinal tract neuroendocrine tumors (NET) are rare, can originate in virtually any digestive system part, and are usually diagnosed late in the disease. Such lesions create diagnostic and curative difficulties because of their low prevalence and wide heterogeneity in biological behavior. Primary stages of regional NETs can be surgically resected to reach a potential cure. Management of advanced metastatic disease, on the other hand, is more complex, aimed at symptomatic relief, prevention of complications, and prolongation of survival. There is a lack of evidence about the optimal treatment strategy for this disease in the literature, hence the further studies are needed. This report aims to describe a high-grade well-differentiated NET case and review its management methods.

Case report: A 67 years old female patient with a history of hysterectomy, performed 17 years ago, was diagnosed with 9 x 11 cm irreducible hernia in the hypogastric region in the area of hysterectomy incision. Clinical symptoms of hypogastric lump, vomiting, diarrhea, abdominal cramping, and facial flushing were present. An incisional hernioplasty was performed, and hernia sac was identified, which consisted of greater omentum covered by numerous carcinomatous masses. Whole-body contrast-enhanced CT followed right after the surgery and 5.0x3.2x4.8 cm sized primary cecum neoplasia with multiple hepatic and peritoneal metastases were identified. Pathological evaluation of greater omentum lesions concluded a diagnosis of well-differentiated, high-grade (G3) NET metastases. The right open hemicolectomy was performed and enterocolic anastomosis was formed, followed by adjuvant chemotherapy and octreotide to reduce carcinoid syndrome induced symptoms. Pathological analysis of the primary tumor confirmed the diagnosis of high-grade well-differentiated NET.

Discussion: As reported by the population-based study in the United States, the cecum is the least common site of NET with an incidence of 4%. Moreover, this is the first reported case of post-incisional hernia repair diagnosed high-grade well-differentiated NET. Clinical symptoms highly vary and for up to 10% of patients with NETs hepatic metastases manifest with carcinoid syndrome, defined by flushing, diarrhea, abdominal pain and vomiting all of which were present in our patient. While most high-grade NETs are poor-differentiated, the treatment of small part of well-differentiated NETs remains a challenge for clinicians. There is currently no standardized method for the management of such neoplasms. Due to the scarcity of clinical research in this field and the lack of novel treatment modalities, the options for patient care remain limited. Further research in this field is needed to create optimal medical therapy regimens.

Chronic ischial tuberosity avulsion nonunion fracture treated surgically - a case report

Author(s): Szymon Urban , Olaf Chmura Jagiellonian University Medical College, Poland Presenting author: Szymon Urban Tutor(s): Wojciech Gawroński

Introduction:

Avulsion fracture of ischial tuberosity is a rare injury, which is relatively frequently observed in young athletes during growth spurts. Delayed diagnosis of this injury can lead to a nonunion fracture resulting in chronic pain and functional disability.

Case report and discussion:

A 15-year-old male with a one-year history of right posterior hip pain was consulted by the doctor. The injury occurred during football training in sport club when he tried to hit a ball using a heel. The patient felt a sharp, stabbing pain in the right hip area, which prevented him from continuing the effort. The patient was initially diagnosed by the previous physician with tearing of the biceps femoris muscle and he had prescribed nonsteroidal anti-inflammatories (NSAIDs), physical therapy and rest. The pain persisted, so the patient underwent other examinations. RTG image and physical examination identified the avulsion fracture of the ischial tuberosity. He underwent open reduction and internal fixation using two Artherex screws. The procedure was uncomplicated, the patient was discharged from the hospital after the first postoperative day. He was recommended with walking with the help of elbow crutches, antithrombotic prophylaxis and a ban on full extension of the right lower limb for four weeks. The patient is currently fully functional.

Conclusions:

Usually, avulsion fracture of ischial tuberosity can be treated non-operative. However, patients with significant displacement or nonunion after conservative treatment need to be treated surgically. Appropriate and fast deploy of treatment minimizes the consequences of injuries. Persistent hip pain, especially in young athletes, cannot be underestimated.

Simple cough or something more sinister? - case report of late onset congenital diaphragmatic hernia

Author(s): KINGA WALSKA
Poznan University of Medical Sciences, Poland
Presenting author: Kinga Walska
Tutor(s): Patrycja Sosnowska

Congenital diaphragmatic hernia is an anatomical abnormality of the diaphragm that is dome-shaped skeletal muscle separating the thoracic cavity from the abdominal cavity. Such malformation allows protrusion of abdominal viscera into the chest. Symptoms of congenital diaphragmatic hernia usually occur in neonatal period but in rare cases symptoms might be delayed. There are two common types of diaphragmatic hernia - Bochdalek hernia and Morgagni hernia. Bochdalek hernia affects the posterolateral part of the diaphragm whereas Morgagni hernia is defined as herniation through the foramina of Morgagni.

A previously healthy 4,5 year old boy was admitted to the Department of Pediatric Pulmonology, Allergology and Clinical Immunology with aggravated cough causing vomit and fever up to 38 textdegreeC. At admission the auscultation revealed wheezing on the right chest field whereas decreased breath sounds and vivid peristalsis on the left chest field. Chest radiograph was performed. Aside from pneumonia the examination also demonstrated gastrothorax on the left side with a mediastinal shift to the right side. Computed tomography (CT) of the chest showed left sided diaphragmatic hernia with noticeable herniation of the stomach, spleen and small bowel into the left hemithorax. The patient underwent thoracoscopic surgery that fully closed the hernia. After three days in follow-up CT inappropriate spleen blood supply was observed. A laparotomy was performed and rotated spleen was uncoiled. During the surgery splenic blood flow was restored and symptoms of spleen ischaemia were alleviated. In the next couple days splenic flow did not increase and necrosis signs were observed. This led to reoperation and the necrotic part of the organ was removed.

This case shows that congenital diaphragmatic hernia should be suspected in any child presenting aggravated respiratory symptoms and unusual chest radiograph even among older children although a late presentation is uncommon. An early diagnosis will enable initiating appropriate treatment. This case also highlights the significance of medical imaging in diagnosis and surgery management of diaphragmatic hernia.

Complication after forearm replantation caused by a provisional torniquet clamped on the stump during long transport - case report

Author(s): Dawid Ciechanowicz, Joanna Antoniak Pomorski Uniwersytet Medyczny, Poland Presenting author: Dawid Ciechanowicz Tutor(s): Andrzej Żyluk

Introduction: In order for replanting of an amputated part of a limb to be effective, it is necessary to meet several conditions, for which, among others it should be the time elapsed between the accident and the restoration of circulation. It is also important that the amputated part of the limb is cooled to a temperature of about 4'C, which significantly extends the time of possible replantation. It is also important for the patient's safety to ensure effective haemostasis of the stump during transport, which is usually achieved by a pressure dressing; it is also permissible to put garters on larger, bleeding stump vessels. Other methods of haemostasis, special compression bands and brace may endanger the stump's lifetime.

Case report: A 26-year-old patient with complete amputation of the distal left forearm was brought to the authors' center. The patient was delivered to the hospital 6 hours after amputation. After being brought to the operating theater, it turned out that the cut off part of the limb was properly prepared for transport (chilled), while the forearm stump, at a distance of about 10 cm from the amputation site, was fitted with a provisional torniquet (made from a rolled bandage), which caused complete ischemia of the distal stump. It was removed from the stump and replantation started. The postoperative course was complicated by massive edema and muscle necrosis in the part of the stump, which was deprived of blood pressure by pressure, which required extensive fasciotomy of the entire forearm and subsequent excision of dead muscle groups. In the replanted distal part of the forearm, apart from edema, no significant disorders were observed. Ultimately, the hand survived, but significant soft tissue defects on the stump required coverage with intermediate-thickness skin grafts. After more than 2 weeks after replanting, the patient was discharged home with a rescued hand, however recovery of good activity can be significantly impeded by the loss of some of the forearm muscles.

Conclusion: The described case is an example of improper limb protection during transport, but not the amputated part (which was well secured), only the stump, which was compressed with a tornique for haemostasis. This could result in complete necrosis of the ischemic part of the forearm and the need for amputation of the limb near the elbow. It seems that if the transport time is longer by an hour, such a scenario would be very likely.

An unusual case of biliary pancreatitis in a patient after cholecystectomy

Author(s): Gabrielė Jonaitytė Vilnius University, Lithuania Presenting author: Gabrielė Jonaitytė Tutor(s): Sana Strainiene, Ilona Savlan Ieva Stundiene

Introduction.

Acute pancreatitis is an inflammatory condition of the pancreas characterized by abdominal pain and elevated levels of pancreatic enzymes. Excessive use of alcohol and biliary calculous disease are the most common causes of acute pancreatitis .

Patients typically present with biliary-type pain and jaundice. Laboratory testing reveals elevated serum bilirubin, cholestatic liver and pancreatic enzymes, while ultrasonography (US) shows signs of obstructive cholestasis. We present a rare case of biliary pancreatitis in the patient after cholecystectomy with no visual bile stones or significant common bile duct (CBD) dilatation on the US.

Case report. The 85-years-old female was admitted to the Centre of Hepatology, gastroenterology and dietetics complaining of general weakness, nausea, vomiting, cold sweats and abdominal pain (VAS 6/10) without fever or jaundice. The pain was localized in the right hypochondriac, epigastric and umbilical regions radiating to the back. The patient had a history of laparoscopic cholecystectomy due to the chronic calculous cholecystitis 5 years earlier, and a wide range of comorbidities, such as coronary heart disease, diabetes, obesity, hypothyroidism. On admission, blood tests revealed mild direct hyperbilirubinemia (16.5 μ mol/l), elevated liver (aspartate transaminase of 892 U/L, alanine transaminase of 771 U/L, gamma-glutamyltransferase of 489 U/L, alkaline phosphatase of 356 U/L) and pancreatic (lipase of 9890 U/L) enzymes. The abdominal US showed hepatosplenomegaly, hepatosteatosis. There was no dilatation of the extrahepatic bile ducts, and no visible stones in CBD observed. The patient was diagnosed with mild pancreatitis and reactive hepatitis. Metabolic, autoimmune and other causes of pancreatitis were withdrawn. However, despite the adequate treatment, the patient's condition impaired, and the actiology remained unclear. Upper endoscopy showed periampullary duodenal diverticulum. Repeated US findings supported the diagnosis of acute pancreatitis and revealed a hypoechoic zone in the body/tail of the pancreas as well as infiltrated peripancreatic tissues. Tumour marker CA 19.9 was slightly elevated by 140 kU/L. To exclude pancreatic cancer computed tomography of the abdomen was performed showing multiple stones in the intrapancreatic part of the CBD and no signs of malignancies. Biliary pancreatitis was diagnosed, and endoscopic retrograde cholangiopancreatography with lithectomy performed. The patient's condition significantly improved.

Conclusions.

Differentiating the cause of acute pancreatitis can be challenging, especially when the US imaging is uninformative along with atypical symptoms and many comorbidities. Acute biliary pancreatitis is an uncommon and rare complication after laparoscopic cholecystectomy for gallstone disease. The p eriampullary diverticulum is associated with a higher risk of CBD microlithiasis and biliary pancreatitis.

Can congenital cytomegalovirus infection be prevented? Case study

Author(s): Anna Lipka, Aleksandra Gładych Poznan University of Medical Sciences, Poland Presenting author: Anna Lipka Tutor(s): Mariola Ropacka-Lesiak

Introduction:

CMV is the most common cause of congenital infection and complicates approximately 1% of all live births. This human herpes virus is prevalent worldwide with an estimated seroprevalence of 45% to 100% in general population. Transmission can occur through contact with CMV-infected body fluids during primary infection or episodes of reactivation from latency. For pregnant women, major risk factor of CMV contraction is a prolonged contact with children under the age of 2, due to their ability to excrete virus up to 24 months after the infection. Vertical transmission risk in primary maternal CMV infection is 30% to 40%. and can result in evidence of clinical infection such as intrauterine growth restriction, microcephaly, hepatosplenomegaly, jaundice, anemia or chorioretinitis in 10% to 20% of the fetuses.

Case description: A 34-year-old patient with a well-dated spontaneous conception was admitted to the hospital at 27 week of gestation. The examination showed cardiomegaly, thrombocytopenia and intrauterine growth restriction in fetus. Maternal serologic tests revealed elevated CMV IgG and IgM titers. Amniotic fluid was strongly positive for CMV DNA by quantitative real-time polymerase chain reaction (RT-qPCR). Due to developing heart failure of the fetus, patient was qualified to arean section. A female infant was delivered, weighing 780g with Apgar scores of 4, 6, and 6.

Conclusion:

Intrauterine CMV infection can only be confirmed through PCR testing for the CMV genome in amniotic fluid. According to Nigro and co-authors CMV hyperimmune globulin (HIG) may be effective in minimizing the damage caused by CMV infection during the pregnancy. However, the optimum dosage and its efficacy still needs to be identified. Recommended treatment for newborns with confirmed intrauterine infection includes antivirals such as ganciclovir and regular monitoring during the first year of their life, considering the 15% risk of neurosensory hearing loss and psychomotor delay.

Caesarean hysterectomy in a patient with placenta previa percreta and continuous uncontrollable bleeding

Author(s): Karolina Czarnecka, Karolina Brykowska Medical University of Warsaw, Poland Presenting author: Karolina Czarnecka Tutor(s): Joanna Kacperczyk-Bartnik, Agnieszka Dobrowolska-Redo Ewa Romejko-Wolniewicz

Introduction: Cesarean hysterectomy refers to the removal of the uterus at the time of cesarean delivery. It is performed in emergency, unplanned situations when a mother's life is in danger. The primary indication for cesarean hysterectomy is abnormal adherent placentation (up to 64% of cases). The highest risk form of placenta accreta is placenta percreta which penetrates myometrium, uterine serosa and may attach to other organs such as an urinary bladder.

Case report: 21- year old pregnant woman at the 24 th week of gestation was admitted to the hospital due to the diagnosis of central placenta previa and a history of recurrent bleeding which started at 9 th week of pregnancy. On admission her general condition was good. She reported mild bleeding. Her laboratory results showed mild anaemia. Her past medical history consisted of a caesarean section 3 years earlier on grounds of failure to progress in labour. 19 th gestational ultrasound examination revealed central placenta previa. She was under continuous cardiotocography supervision, received steroids, tocolytics, 2 units of red blood cells and 1 plasma unit. 4 days after admission a sudden spurt of blood from her reproductive tract led to the immediate caesarean section. Under general anaesthesia the Pfannenstiel incision was made which showed 3 highly vascularized adhesions of the bladder with the uterus and few smaller ones of the greater omentum with the abdominal wall. A 600g boy was delivered with an Apgar score of 2/3/4/6. Due to the heavy bleeding (blood loss during operation of 4000ml), systolic blood pressure drop up to 40 mmHg and impossibility to obtain haemostasis the decision was made to extract the uterus leaving the gonads unaltered. A test with methylene blue showed that the bladder was leaking to the abdominal cavity in a spot of the adhesion, so it was fixed accordingly. During the surgery it was necessary to deliver 3 red blood cell units and 3 plasma units transfusions.

Conclusions: Central placenta previa may lead to serious, life-threatening complications such as haemorrhage. It is of utmost importance to diagnose it early to be able to solicitate adequate treatment and prepare for a possible emergency. It should be also kept in mind that women with both a prior caesarean delivery and placenta previa are at high risk of placenta accreta.

Bilateral Fibular Tunnel Syndrome

Author(s): Mykolas Udrys Vilnius University, Lithuania Presenting author: Mykolas Udrys Tutor(s): Mindaugas Minderis

Introduction

The fibular tunnel syndrome is the most common peripheral neuropathy in of the lower extremity. It most commonly presents with foot drop, which may develop acutely or subacutely depending on the precipitating cause. In addition to motor deficiency, sensory alterations may be found in common peroneal nerve sensation area. In seldom cases, common peroneal neuropathy presents only with sensory deficiency, without any noticeable motor dysfunction. Fibular tunnel syndrome is most commonly caused by traumatic nerve injury, which occur in association with musculoskeletal injury or with isolated nerve traction, compression, or laceration.

Case report

A 54-year-old male presented with numbness and pain of both lower legs. It began 3 months ago after hiking. Pain irradiates anterolateral side of the lower leg, from knee to the ankle. Every static position worsens the pain. Although there was not noticeable motor dysfunction of peroneal nerves, patient stated that he became clumsier and needed more concentration when walking. The neurological examination on admission revealed hyperesthesia in the common peroneal nerve sensation area of the left leg. There was hypesthesia in the superficial peroneal nerve sensation area and hyperesthesia in the deep peroneal nerve sensation area of the right leg. Sural nerve sensation area was normal. Palpation of the nerve at the fibular tunnel area in both legs was painful. A diagnosis of bilateral fibular nerve tunnel syndrome was established. Surgical decompression of both common peroneal nerves was performed. After the operation, pain and dysesthesias in both legs disappeared immediately. According to the patient, it become easier to stand up and walk.

Conclusion

In less frequent cases, fibular tunnel syndrome can present only with pain and/or dysesthesia in common peroneal nerve sensation area, without any noticeable motor deficit. These cases are much more difficult to diagnose which usually leave these patients without appropriate treatment. Absence of an obvious traumatic injury in the anamnesis also makes more difficult to establish the diagnosis. Clinical evaluation and thorough taking of patient's anamnesis are the main factors of establishing the fibular tunnel syndrome. And when diagnosed, the most effective treatment is surgical decompression of common peroneal nerve.

Odontogenic Neck Phlegmon a case report

Author(s): Edward Wąsiewicz, Kamila Fularska Dominik Szawica, Agnieszka Pojnar University of Rzeszów, Poland Presenting author: Edward Wąsiewicz Tutor(s): Wojciech Domka

Introduction

Odontogenic infectious lesions may affect the overall condition of human's health. Spreading through continuity, they occupy adjacent anatomical spaces. Penetration of microorganisms, into the blood can cause systemic infections and inflammatory changes in organs, which are distant from the mouth. Phlegmon is an acute, potentially life-threatening cellulitis. Localizations around the neck and mouth are rare. The most common causes of neck abscesses and phlegmons include: tooth pulp infections and root abscesses (38,8-49%), inflammations of the palatine tonsils and infections of the pharynx (9-16%).

Case Report

This paper presents the case of a 68-year-old woman in whom odontogenic phlegmon localized in soft tissues of the neck was detected. It had an atypical morphology in the form of 3 purulent cisterns with phlegmon of the surrounding tissue. The patient (in a severe condition) was admitted to the otolaryngology ward, due to increasing dyspnoea, swelling and neck pain. Due to presented signs and symptoms, after a CT and ultrasound examination, she required a tracheotomy during which the neck tissues were cleaned. After diagnostic tests, it was necessary to perform sanation of the oral cavity in order to prevent another infection.

Conclusions

Patients with multiple medical conditions who have purulent sore throats or purulent tooth lesions should receive immediate antibiotic therapy in accordance with the latest guidelines. The consequence of inadequate treatment may be the spread of inflammation to the neck tissues leading to numerous life-threatening complications.

Loosening of the knee replacement with suspected infection - case report

Author(s): Marcin Kostuj, Joanna Bargieł Kamil Marczewski, Karina Sypek Medical University of Silesia, Poland Presenting author: Marcin Kostuj Tutor(s): Piotr Rydel

Introduction:

Knee replacement is a procedure that significantly improves the quality of patients life, enabling them to walk in the proper way. Thanks to this procedure we can eliminate damages of the knee joint caused by degenerative diseases. Endoprosthesis consists of metal elements that replace the distal part of the femur, the proximal part of the tibia and a plastic insert between them. The metal parts of the endoprosthesis can be fixed to the bone with special bone cement or can be adapted for integration with the bone. Indications for knee replacement are advanced osteoarthritis, worsening of the patient 's functioning in everyday activities, pain in the joint, which does not disappear after painkillers and occurs both in motion and at rest.

Case report:

The patient with knee joint endoprosthesis was admitted to the Clinic due to pain in previously operated knee. During the hospitalization, a number of laboratory and imaging tests was conducted, which allowed to diagnose loosening of the right knee joint endoprosthesis with suspicion of bacterial infection within the joint. Patient was qualified for the procedure of implanting a temporary knee joint prosthesis releasing antibiotics. After suitable preparation, the procedure was performed.

In place of previous endoprosthesis there was implanted antibiotic-impregnated cement spacer. It is temporary knee joint prosthesis releasing antibiotics, which is a device supporting the treatment of infections related to the implantation of the knee joint endoprosthesis.

Conclusions:

Infection within the replaced joint is dangerous complication of the knee replacement surgery. Antibiotic-impregnated cement spacer implantation is essential for the treatment of the infection, but other factors like clinical condition of the patient as well as anatomical condition of the femur and acetabulum should be taken into account to estimate the prognosis. It is also very important to make sure the patient will receive all needed medications after this type of treatment and will be thoroughly informed about the need to maintain hygiene in the given area and the ban on loading the operated limb.

A rare case of congenital dermoid cyst within the central compartment of the neck

Author(s): Arnak Balabekyan Medical University of Lodz, Poland Presenting author: Arnak Balabekyan Tutor(s): Jurek Olszewski

Introduction: Dermoid cysts are benign congenital lesions occurring in about 80% in the ovaries and testicles and only about 1.6-7% are found in the head and neck region, mainly in the midline of the body.

Aim: Presentation of a rare case of congenital dermoid cyst within the central compartment of the neck. Case report: A rare case of congenital dermoid cyst of the neck central compartment has been presented. It was diagnosed for the first time when the patient was 10 years old and then at the age of 22 he was re-diagnosed and qualified for surgical treatment.

The paper presents introduced diagnostic and therapeutic procedures.

It demonstrates the value of appropriate tests and of exclusion of other possible disease entities.

Conclusions: Dermoid cysts of the neck are a rare disease affecting mainly the ovaries and testicles. They require detailed diagnostics to exclude many disease entities.

In most cases, they do not cause severe symptoms and often require only simple surgical treatment.

Key words: congenital dermoid cyst, diagnostics, treatment

Aneurysmal bone cyst or juvenile psammomatoid ossifying fibroma with an unusual penetration? A case report.

Author(s): Zuzanna Brunka, Tomasz Szmuda Medical University of Gdańsk, Poland Presenting author: Zuzanna Brunka Tutor(s): Tomasz Szmuda

Psammomatoid juvenile ossifying fibroma (PJOF) is a type of rare benign tumour of fibro-osseous character, originating in the craniofacial skeleton in children and young adults. With the majority of PJOF tumours occuring in paranasal sinuses, this type stands in contrast to the trabecular JOF (TJOF) which has a higher tendency of growth in jaws. The diagnosis of PJOF indicates the need of complete resection, as despite the benignancy, those neoplasms are known to be locally agressive, expansive and have been observed to have a high recurrence rate. Herein, we present the case of of a 17-years-old female diagnosed with PJOF of ethmoid sinus with unprecedentedly deep intracranial penetration.

The patient, 17-years-old female, was admitted to Otolaryngolocy Clinic of University Clinical Centre in Gdansk with the history of mouthbleeds and headaches. Performed MRI revealed a mass adherent to sphenoid sinus, penetrating to numerous intracranial structures. The radiological image was first described as most resembling the aneurysmal bone cyst. The patient was moved to the Neurosurgery Clinic. Due to the uncertain character of the tumour, craniotomy was performed several days later to obtain the sample of the tissue. The histopathological examination revealed a juvenile psammomatoid ossifying fibroma. In the second day after the surgery, the communication with the patient started deteriorating. A control CT scan showed an epidural hematoma at the site of craniotomy. It was evacuated for life-saving indications. No further complications were stated

A year later, patient came back for the planned resection of the tumour. Unfortunately, only a partial resection was possible due to the location of the mass, which was still penetrating to the etmoid sinus, sphenoid sinus, upper 1/3 of the clivus and nasal cavities. The patient was discharged from the hospital with the recommendation of further check-ups. The MRI performed a few months later revealed the regression in the size of the tumour. The patient remained under the care of the otolaryngolocy clinic.

This case illustrates the difficulties in the initial stages of JPOF's diagnosis, as well as potential complications the widely practised treatment of this disease may cause. Differential diagnosis of this neoplasm is initially hard, as radiological image may mimic other tumours appearing in this region. However, it seems that histopatological examination clears out most of the uncertainties. When it comes to post-operative issues, an epidural hematoma is a rare complication of craniotomy, but it is also one of the most serious, yet forseeable ones, and if managed promptly, it should not leave any permanent damage.

The significance of complex therapeutical plan in managing advanced prostate cancer - case study.

Author(s): Krzysztof Szczerbowski, Mateusz Wieliczko Remigiusz Loroch Collegium Medicum im. Ludwika Rydygiera w Bydgoszczy, Poland Uniwersytetu Mikołaja Kopernika w Toruniu, Poland Presenting author: Krzysztof Szczerbowski Tutor(s): Adam Ostrowski

Introduction:

Prostate cancer is considered the second most often diagnosed malignancy and the fifth cancer related mortality couse among men. It is believed to be highly associated with age, but also with race, genetical and environmental factors. Even though it is thought to have good prognosis, still around 25% of patients are diagnosed with high risk or locally advanced, metastatic disease. As new therapies emerge within the last decade it is unnacceptable to treat patient only with primary androgen deprivation therapy (ADT).

Case presentation:

We present a case of 68-year-old man diagnosed with prostate adenocarcinoma Gl 8, PSA 57 ng/ml, T4 stage with present bone metastasis in 2013. He was primarly treated with ADT (Diphereline+Bicalutamid). Patient didn't undergo any local treatment nor was he suggested additional treatment. Two years later, due to the biochemical reccurence, the pacient was directed to the higher referentiality center where he received Docetaxel and zolendronic acid. Because of the PSA growth (up to 100 ng/ml) in 2016 the Abirateron with Encorton treatment was added. After that he was directed to the high volume prostate center where the cystoprostatectomy was performed. At the end of 2017 the PSA started to rise again. Moreover, imaging examination revealed changes in a ortic lymph notes, which were later confirmed to be metastasis. Patient was under consideration of Cyberknife treatment, however was not accepted by oncological council. At the turn of the 2018/2019 patient received another Docetaxel chemotherapy after which the PSA droped from 241ng/ml to 97 ng/ml and the patient's frame of mind was good. A few months later patient's condition got worse significantly with PSA rise up to 300 ng/ml. Also he lost 10 kg body weight and declared lack of appetite. The patient died shortly after.

Discussion:

Although the therapeutical options of the andvanced prostate cancer are limited, there are few such as radiotherapy and radical prostatectomy. Recent studies show that early agressive threatment can significantly prolong the life span and decrese all-cause mortality, probably due to lowering the number of tumor cell. Unfortunately, the effectivness of those procedures dramatically falls after developing resistance to castration. This case is a perfect example of how the lack of theraputical plan in early stage of therapy can affect the later treatment.

Dentistry



Coordinators: Julia Stępień, Zuzanna Chrzanowska,

Jury:

prof. dr hab. n.med. Joanna Szczepańska , dr hab. n.med. prof. nadzw. Monika Łukomska-Szymańska , dr n. med. Katarzyna Banaszek ,

Border molding protocol for lower complete dentures: a case study

Author(s): Zivile Zidonyte Lithuanian University of Health Sciences, Lithuania Presenting author: Zivile Zidonyte Tutor(s): Alvydas Gleiznys

INTRODUCTION

Elderly patients who are indicated as complete denture wearers usually come to the doctor with a severe problem - atrophied alveolar ridge, which leads to disbalance during chewing, talking, creates discomfort even in laughing. The aim of the restorative dentistry specialist is to solve this problem, when there is not enough bone or because of patient's financial status. So that we have described our protocol for custom tray borders.

AIM OF THE STUDY

The purpose of the study was to show off the main steps and anatomical structures, which demand doctor's attention by taking functional impressions for mandible removable complete dentures and to mention the tips which lead to success of the treatment.

MATERIAL AND METHODS

72 years old patient came to our clinic with highly atrophied mandible alveolar ridge with her prostheses that were 5 years old and has to be changed. After making radiographic and clinical evaluation, the implantation was declined. Subsequently, during the first visit we have rebased her old prostheses, after that have taken impressions for upper and lower jaws for primary casts. The technician made custom trays from acrylic resin by consulting about the borders with a doctor. The next visit a patient came for functional impressions. Before that, we had to make a border molding and the impression process takes time. The molding was made with an addition silicone. From the bottom of the custom tray 4 small putty silicone beads through the alveolar ridge were made as landmarks to know when to stop pushing custom tray to the alveolar ridge. Those beads are to maintain 0,5 mm space for impression material. After making landmarks, addition silicone was placed all around the borders of the tray and a patient had to perform functional movements, like pushing lips, lifting the tongue through the hard palate and to sides. After the impression material has set, we removed beads, put the tray into the mouth by checking tissue and tray border's contact, evaluated anatomical structures. This technique with silicone beads has facilitated the process and functional impression was with polyvinylsiloxane with no difficulties.

RESULTS

The result of this case study has confirmed itself after the cast was made. The main structures to take into account from the vestibular side is labial frenum, buccal frenum, labial and buccal sulcus (evaluation if it is correct: we have to leave about 2 mm from stretched tissues). Accordingly, from the lingual side - lingual frenum, genial tubercle, mylohyoid ridge. From the back - retromolar pads should look like "rising".

CONCLUSION

By making this clinical case we have clarified the main tips on how to make a successful prosthetic treatment with taking into account functional impression. Also, we evaluated anatomical structures that are important for denture stability, but the best that we could do was patient's smile that she can eat and communicate conveniently now.

The concentration of fluoride in the saliva after application of fluoride gel using toothbrush in young adults

Author(s): Zuzanna Piotrkowicz, Maria Prokopczyk Medical University of Warsaw, Poland Presenting author: Zuzanna Piotrkowicz Tutor(s): Anna Turska - Szybka

Introduction: Fluoride is the foundation of preventive dentistry. Manufacturers of fluoride gels recommend mouth rinsing after gel application which reduces the concentration of fluoride in saliva. The number of studies in young adults is limited.

Aim: The aim of the study was to examine to what extent mouth rinsing affects the retention of fluoride ions in saliva as compared to no rinsing after brushing teeth with fluoride gel.

Materials and methods: The study included 103 dental students aged 21-25, consisted of a survey and a clinical and laboratory examination of saliva. A single-blind, randomized, crossover design was used. The application of fluoridated gel was performed in the morning, 2 hours after breakfast. After supervised tooth-brushing for 2 min with Elmex Geele(Colgate Palmolive, dose 1cm) participants in Group A(n=52) were asked to expectorate all excess product for 30sec and in Group B(n=51) to rinse their mouths with 50ml of tap water. Saliva(5 ml) was taken into tubes 15 min after gel brushing. Fluoride determination was carried out with ion suppression ion chromatography.

Results: Each participant used toothpaste with fluoride daily, mostly 1450ppmF. Mean values of fluorine ion concentration before brushing: group A: 0.19 ± 0.38 , group B: 0.08 ± 0.10 , p: 0.044; after brushing: group A: 15.33 ± 14.73 , group B: 6.19 ± 5.97 , p=0.001. Average post-pre-emptive differences and p-value for comparison of groups A and B (based on t-test): group A: 15.5 ± 14.74 , group B: 6.11 ± 6.00 , p=0.000. The correlations between the fluorine concentration in saliva and the daily use of fluorine pastes and between the consumption of food products with high fluorine content were proved to be statistically insignificant.

Conclusions: A higher concentration of fluoride in saliva occurs after fluoridation without rinsing the mouth after Fluoride gel brushing. Discontinuation of oral rinsing after the use of fluoride preparations results in a higher concentration of fluoride in saliva, which makes these preparations more effective. Demonstrating this dependence may be a basis for changing the manufacturers 'recommendations on how to use gels and will require further research.

When orthograthic surgery bites the dust - the assessment of postoperative complications

Author(s): Natalia Siwecka
Medical University of Lodz, Poland
Presenting author: Natalia Siwecka
Tutor(s): Marta Tyndorf, Marcin Kozakiewicz

Introduction

Orthognathic surgery (OS) is considered a common and safe treatment option for patients with bite deformities, yet irreversibly associated with some adverse effects. Although the blood loss during OS is not substantial and usually does not require transfusion, numerous studies have suggested that it might be directly related with higher complication rate in orthognathic patients.

Aim of the study

The assessment of risk factors for complications in patients undergoing OS.

Material and Methods

We have evaluated the data of 95 patients (66,32% female) operated on at the USK WAM-CSW Hospital in years 2017-2020, mean age was 28,96 ($\pm 8,71$). Study involved patients with skeletal class I (4,2%), II (29,5%) and III (66,3%) malocclusion, undergoing surgically assisted rapid palatal expansion (SARPE) (15,8%), bilateral sagittal split osteotomy (BSSO) (33,7%) and LeFort I osteotomy with BSSO (Bimax) (50,5%), 14,6% of which constituted 'surgery-first' approach. The levels of Hb and CRP before, 1 and 2 days after surgery were evaluated to assess the blood loss and postoperative systemic inflammatory response. Reported complications included nerve injury, local pain, bleeding, breathing difficulties, temporomandibular joint disorders (TMJD), muscle tension, malocclusion, need for reoperation, emotional distress and other local complications. For the statistical analysis, Kruskal-Wallis and Chi-square tests were performed. Only p-values $\leq 0,05$ were considered significant.

Results

There was a significant correlation between V3 neuropathy and decreased Hb level before and on the 2nd day after OS as well as increased CRP on the 1st day after OS. Both lower Hb before and 2 days after OS and lower CRP before OS were significantly associated with muscle tension. Malocclusion and breathing difficulties correlated with higher CRP on the 1st day, whereas depressed mood and local pain - with lower Hb after OS. TMJD were characteristic for patients with skeletal class II, whilst class III patients experienced breathing difficulties and emotional distress more often. As far as Bimax was associated with more frequent bleeding and V2 dysfunction, V3 dysfunction and TMJD were more apparent after BSSO. Nerve injury, muscle tension and need for reoperation were observed more often after surgery-first, and the frequency of local complications was significantly higher.

Conclusions

Decreased Hb and increased CRP levels are significantly correlated with higher complication rate. Both type of malocclusion and performed procedure have impact on the risk of specific complications, due to anatomical reasons. Surgery-first, although preferred by patients, is associated with more severe side effects like neuropathies, muscle tension and requirement for reoperation, as compared to classical procedures. All mentioned aspects should be taken into consideration before OS in order to provide safer management to orthognathic patients.

Evaluation of the hard palate thickness for microimplants placement in different age groups - a CBCT study

Author(s): Adam Wawrzynkiewicz, Aleksandra Jastrzębska Kamil Osasiuk Medical University of Lodz, Poland Presenting author: Adam Wawrzynkiewicz Tutor(s): Adrian Strzecki

Introduction:

Cone beam computed tomography is a diagnostic tool capable of acquiring volumetric data with relatively low dose of radiation and short acquisition time. Thus, anatomical structures of the facial skeleton can be examined in axial, coronal and sagittal planes simultaneously. CBCT scans allow for accurate orthodontic treatment planning with microimplants which vastly expands the biomechanical possibilities. One of the most commonly used regions for microimplant insertion is the paramedian area of the hard palate. However, scientific data regarding the hard palate thickness in juvenile patients was not previously presented.

Aim of the study:

To assess the hard palate thickness on the basis of the CBCT scans in juvenile and adult patients.

Material and methods:

58 patients were enrolled into study and divided into 3 groups: I: 8-12 years (21 patients; 9 females/12males), II: 13-18 years (18 patients; 8 females/10 males) and III: young adults from 19 to 25 years (19 patients; 9 females/10 males). In each case, previously obtained for other clinical reason CBCT scan was used. Coronal planes at 3mm (P3), 6mm (P6) and 9 mm (P9) distally from the posterior wall of incisal canal were acquired and the cortical bone and hard palate thickness 2mm (L2), 4mm (L4)and 6mm (L6)to the left from the midline were measured.

Results:

The mean thickness of the hard palate was largest at its anterior part and laterally towards the alveolar processes (point P3L6) and equalled 8,4 mm, 7,94 mm and 8,3 mm in groups I, II and III respectively. Anterior hard palate thickness in the area adjacent to the median palatal suture increased with age (Point P3L2: 7,09 vs 7,17 vs 8,32 mm) but no statistically significant difference could be identified.

Conclusions:

CBCT scan allows for accurate and repeatable measurement of the hard palate thickness. Safe zones for micro implant placement include the anterior part of the hard palate (3 mm from the incisive foramen). Individual approach with accurate CBCT measurements is recommended when insertion is planned in the other areas. Age does not appear to be a decisive factor in altering anatomic conditions for microimplant placements however more caution is advised in cases of patients younger than 13 years.

The accuracy of impression materials for complete dentures: a case study

Author(s): Zivile Zidonyte Lithuanian University of Health Sciences, Lithuania Presenting author: Zivile Zidonyte Tutor(s): Alvydas Gleiznys

INTRODUCTION

Nowadays to make a precise impression for complete dentures becomes an issue because of many factors like not following the instructions, not enough experience. It may not make a huge difference in anatomical casts before making custom trays, but it actually will disturb it after by fabricating dentures. One of the most important problem is a lack of acknowledgement which impression material to use and how to use it in a correct way. Therefore, it is inevitable to clarify essentials in order to achieve accuracy and the highest comfort in wearing complete dentures.

AIM OF THE STUDY

The aim of the study was to discern whether there is a difference which impression material to use by taking impressions for removable complete dentures and to determine which impression material leads to best results.

MATERIAL AND METHODS

A case study was based on the main impression materials that we use in everyday prosthodontics. We have decided to analyze materials for complete dentures and have chosen hydrophilic addition silicone, polysulfide and polyether. We have included 7 patients, who were indicated as complete denture wearers. Each patient had to undergo 3 different impressions with identical custom trays and different 3 impression materials as well. After that, all the impressions were poured in Type III dental stone. Every cast was evaluated objectively by taking into account soft and hard tissues, assessing the comfort for the patient during the process (through the questionnaire), setting time and the convenience for a doctor. To sum up, polyvinylsiloxane has shown the best results and did not display any discrepancies like pores, did not came off from the custom tray after removing the impression from the mouth, had the most satisfying consistency for a patient. Unfortunately, polyether had a long setting time and lead some patients to vomiting and polysulfide was not comfortable for a doctor because of the mixing time.

RESULTS

After making a case study and analyzing these clinical cases, we have found out that there is a significant difference between impression materials by taking an impression for complete dentures, including its' setting time, accuracy, tendency to extend or shrink during the interval between taking and pouring dental stone cast. The most accurate impression material was dedicated to elastomeric material - hydrophilic addition silicone, which is less hydrophilic than polysulfide or polyether. Accordingly, it produces casts with more soft tissue details than low-viscosity polysulfide.

CONCLUSION

A difference between impression materials for complete dentures is significant, it highly influences a comfort during the treatment and by wearing the prostheses. The best impression material for taking impressions with custom trays was determined to be a polyvinylsiloxane, in other words, an addition silicone.

Determinants of choosing a dental clinic on the example of a selected dental clinic in Łódź

Author(s): Agata Kunert Medical University of Lodz, Poland Presenting author: Agata Kunert Tutor(s): Dominika Cichońska-Rzeźnicka

Abstract:

Introduction: High competition on the dental market means that healthcare providers seak for various marketing solutions to attract and retain patients. It is therefore crucial to define the factors that affect these processes. Due to the fact that dental industy belongs to the health market, these institutions operate under the conditions of a limited market mechanism. This means that running this enterprise is an attempt to reconcile the desire to develop business and financial profit with the overarching goal of providing health services.

Aim of the study: The aim of the study is to understand the factors determining the choice of the dental practice and the level of patients 'knowledge of costs and course of treatment.

Materials and methods: The study was conducted among patients of one of the dental clinic in Łódź and included 230 respondents. The tool used was an anonymous survey questionnaire.

Results: The vast majority of respondents, i.e. 75.2% of the respondents, were people who indicated their willingness to care for oral health as the main reason for using dental services. The remaining part of the respondents got dental treatmentmainly because of pain or the need to improve the aesthetics of their teeth. The respondents most often paid for dental treatment out of their own funds (62% of respondents), almost 30% of patients benefited from co-payment by the National Health Fund, while every tenth respondent used only services of the National Health Fund. The factor most frequently indicated by patients (75.2% of respondents), deciding about the choice of dental practice despite the higher prices of services offered was the recommendation of the clinic by a relative or friend. What 's more, the doctor 's professional experience prompts the choice of a more expensive office for 66% of respondents, while a high service standard convinces 52.6% of patients. Respondents asked to indicate the most important elements determining the choice of a dental practice, pointed out as important or very important professionalism and experience of the dentist (98.3%), attentive and qualified staff (86.6%) and a wide range of services (80.8%).

Conclusions: Analysis of the results gives the basis to draw the following conclusions:

- 1. Patients primarily indicated the professionalism and experience of the dentist as well as the wide range of services offered as the main determinants of the choice of the dental practice. The employment of appropriate staff and the availability of a wide range of services can determine the success of the clinic on the market.
- 2. According to the study, qualified and experienced medical staff as well as the recommendation of a practice from a relative or a friend justifies the choice of a dental practice with prices higher than competitors.
- 3. With regard to patients' most frequently declared concerns, the quality of services offered should be focused on providing pain-free dental treatment.

Nationality variation in morphologic pattern of lips and lip morphometry

Author(s): Milda Vitosyte, Dominyka Malinauskaite Vilnius University, Lithuania Presenting author: Milda Vitosyte Tutor(s): Alina Puriene

Introduction: The wrinkles and grooves on the labial mucosa form a characteristic pattern called "lip prints". Lip prints are considered unique to an individual as fingerprints. However, the growing popularity of aesthetic surgery poses a risk to the authenticity of the lip prints. Studies show that lip development is driven by genetic and epigenetic factors, but there is still no research about the relationship between lip pattern and ethnicity and its existence. Furthermore, knowledge of the proportions between the upper and lower lips could help during the surgical correction of the region.

Aim(s):

To document and classify common patterns and their variations in Polish and Lithuanian populations, to evaluate any differences between the nationalities of different groups and to evaluate the ratio of various linear and vertical measurements of the upper and lower lips.

Material and Methods: 296 women (18-25 years, Mage=21.42) from Vilnius University participated in this study. Prior to the collection of lip prints, a questionnaire measuring ethnic indicators and factors influencing the anatomical features of lips was administered. 151 Lithuanians and 145 Poles were selected for this study , their lips were colored with red lipstick and prints captured on two microscope slides. Each lip print was divided into six sextants and studied independently by two observers using a magnifying lens to examine the lip grooves. The Suzuki and Tsuchihashi 's classification (1967) was used to define lip patterns.

80 women (40 Lithuanians and 40 Poles) were photographed by Vectra M3 3D (Canfield Imaging Systems, USA) camera, lip patterns and morphometry (vermilion and medial vertical height of cutaneous lip) were analyzed by MirrorPhotoTools program. Statistical analysis was performed using the IBM SPSS v.23 statistical package, descriptive statistics, independent sample t-test, Chi-square, Cohen's kappa tests were applied. Statistical significance level p $<\!0.05$.

Results: Lip print type I was the most common (57.8%, n=524) among Lithuanians in all lip sextants, type III - most common (26.6%, n=231) in Polish women group. A statistically significant difference ($p{<}0.001$) was found between in questioners reported ethnicity and lip pattern. Comparing the prints and the pictures taken with Vectra M3 3D, the lip prints assignment to type in both cases coincided. Morphometrical analysis revealed that height of the upper vermilion was thinner than the lower vermilion. The values of medial vertical height of cutaneous upper lip were greater in upper lip and the difference was statistically significant ($p{<}0.001$) between the nationalities.

Conclusions: Lithuanian women population is dominated by type I lip pattern, and Polish - type III, ethnicity relates to the lip print type. Morphometrical findings were in concordance with the other morphometric studies on Caucasians.

The Attitude of Polish Dentists towards Children Treatment

Author(s): Maria Prokopczyk, Zuzanna Piotrkowicz Medical University of Warsaw, Poland Presenting author: Maria Prokopczyk Tutor(s): Anna Turska-Szybka

Introduction: The dentists' attitude towards Children Treatment is one of the factors affecting the success of pediatric dental treatment.

Aim of the study: The aim of the study was to present the attitude of dentists towards Children Treatment. Materials and methods: A questionnaire survey was conducted among 736 dentists and consisted of 46 questions about premedication, adaptive and prophylactic visits, methods of treatment, attitude and impact on the child 's behavior in the office, used behavioral methods, approaches to non-cooperating patients. Data were analyzed using descriptive statistics and the Spearman test (p>|0.015|).

Results: For the analysis 577 surveys were qualified. The average age was 33 (± 31.8) years. Premedication was used by 16.7%. Disabled patients were treated by 60.5% of respondents. Only 17.8% used caries risk assessment questionnaires. Independent adaptation visits were conducted by 70.5%. Almost all performed prophylaxis, more often including treatment (59.5%). Glass-ionomer cement was most frequently used for restoration of primary teeth. Primary teeth were treated endodontically by 41.3% and young permanent teeth by 65.4%. As many as 72.3% of dentists made their attitude to a patient dependent on the style of parents' upbringing and chose on this basis methods of shaping the dental approach. About 65% of dentists used behavioral methods. Non-cooperating children were treated by 16.7%. To immobilize the child, 4.5% of dentists asked for dental assistance, and 35.6% for the parents' help. According to 84.9%, it was possible to overcome dentophobia through adaptation visits.

Conclusions: Most of the dentists treat children, including the youngest and disabled children, and proceed with prophylactic treatments. A premedication is used by a minority. Glass ionomer cement is the most popular material for reconstruction. Every second doctor immobilizes a child asking parents for help. It is possible to overcome dentophobia through adaptation visits.

Pharyngeal airway space in skeletal class II open and deep bite

Author(s): Urtė Mackevičiūtė, Danielė Oleinikaitė Lithuanian University of Health Sciences, Lithuania Presenting author: Urtė Mackevičiūtė Tutor(s): Vilma Švalkauskienė

INTRODUCTION

Pharynx is a very important anatomical structure responsible for swallowing and breathing. It is said that pharyngeal airway space may differ depending on the position of mandible. It is important to know its relation with skeletal growth pattern.

AIM OF THE STUDY

The study aims to measure bony pharyngeal airway space in different skeletal growth patterns.

MATERIALS AND METHODS

Ethical approval for the research was granted by the Lithuanian University of Health Sciences (BEC-OF-103). 60 lateral cephalometrics of patients with skeletal class II open (group I) or deep bite (group II) were selected for the study, 30 in each group. 38 women and 22 men were involved in a research with age starting from 9 to 43. Linear measurements of pharynx were done and correlated to linear and angular measurements of skeletal growth pattern.

RESULTS

There were no statistically significant difference when compared measurements between groups. With an increasing SNA, SNB angles linear pharynx measurements were increasing. With increasing SN-GoGn angle pharynx width was decreasing (p<0.05).

CONCLUSION

The results suggest that when skeletal class II and vertical growth pattern increase, pharynx width decreases. All in all, it is of the utmost importance to take pharynx measurements into consideration when treating orthodontic patients, because it can affect general health.

Odontology and Oral Hygiene final year students knowledge and attitude about Basic Life Support

Author(s): Danielė Oleinikaitė, Urtė Mackevičiūtė Lithuanian University of Health Sciences, Lithuania Presenting author: Danielė Oleinikaitė Tutor(s): Vilma Valkauskiene

Odontology and Oral Hygiene final year students knowledge and attitude about Basic Life Support INTRODUCTION

In today's world cardiac arrest is the leading cause of death. So knowledge about BLS (Basic Life Support) and CPR (cardiopulmonary resuscitation) is a necessity, especially for healthcare students.

AIM OF THE STUDY

The study aims to identify Lithuanian University of Health Sciences Odontology and Oral hygiene last year students' awareness, attitude and knowledge about BLS and CPR.

MATERIALS AND METHODS

The questionnaire was made in "Google forms". Ethical approval was granted by the Lithuanian University of Health Sciences (BEC-OF-102). The questions (15) were sorted into demographic information - 3, awareness - 2, attitude - 2 and knowledge - 8. Last year Odontology (I group) and Oral hygiene undergraduates (II group) (98) were asked to fill this anonymous questionnaire. Statistical analysis was performed with SPSS 22.0. P value of 0.05 was considered significant.

RESULTS

98 students answered the questionnaire: 88,8% women, 11,2% men. 82 Odontology and 16 Oral Hygiene students. Participants were 22-25 years old (average 22,5 \pm 0,73). 73,5% students marked that they learnt about BLS in driving school (besides university), 68,3% in group I, 100% in group II. 82,7% students would like to know more about BLS: 89% Odontology and 50% Oral Hygiene undergraduates. When asked why didn't they learn about BLS more: 38,9% answered that they know enough about BLS. 95,9% students chose correct sequence of resuscitation in BLS. 85,7% answered that carotid artery needs to be felt for a pulse in an adult patient, however, there was statistically significant difference between groups (p<0.05). 86,7% answered that they know emergency drugs (p>0,05 between studies). 87,8% Odontology and 56,25% Oral hygiene students knew depth of chest compressions. 83,7% students knew correct ratio of chest compressions to rescue, 82,7% knew the number of breaths/minute. Only 67,3% undergraduates knew recommended action in responsive choking person with fully obstructed airway. Most undergraduates (58,2%) evaluated their knowledge as average.

CONCLUSION

Odontology students have better knowledge about BLS than Oral hygiene students. Overall students awareness in BLS is sufficient. Though, Oral Hygiene students 'attitude toward BLS training is average and Odontology students 'is above average, percentage wise. Because participants showed positive attitude toward BLS training, more classes should be considered in the university curriculum.

Periodontal health and oral health care among adults in Vilnius, Lithuania

Author(s): Milda Vitosyte Vilnius University, Lithuania Presenting author: Milda Vitosyte Tutor(s): Alina Puriene

Introduction: Periodontal disease is characterized by the destruction of hard and soft connective tissue constituents of the periodontium. The most recent data of the prevalence of periodontal diseases among adults in Lithuania has been recorded in 1997/1998. Oral health surveys are needed to determine predominance of oral conditions, the nature and urgency of oral health interventions.

Aim of the study: To assess the oral health status of adults from Vilnius, compare the patients 'self-evaluations of oral hygiene, oral health and stress with the results of the clinical examination expressed using gingival bleeding index and periodontal status (CPI).

Materials and Methods: A total of 452 adults (Mage=52,7, SD=13.3) participated in this study. Prior to the initial dental visit, a questionnaire measuring self-rated oral health, hygiene and stress was administered. Gingival bleeding index and CPI were assessed during intraoral examination. All procedures were approved by License of Bioethics Committee of Lithuania, No 158200-17-920-426. Data analysis was done using descriptive statistics, independent sample t-test, Mann-Whitney, One-way Anova, Kruskal Wallis tests. Significance level p<0.05.

Results:

The mean percentage of dentition with pockets was 35.7%, for the 4-5 mm pockets 44.8% and for advanced ones 5.3%. The average number of teeth with any attachment loss was 4.1 teeth. Self-reported information about dental and gum health was significantly related to CPI and stress levels (p<0.001). Patients with worse oral hygiene had significantly higher levels of gingival bleeding and CPI.

Conclusion: Periodontal health of adults living in Vilnius is suboptimal, requiring intervention. The presence of oral conditions is influenced by oral hygiene and levels of stress.

Level of anxiety related to endodontic treatment within the medical and dental healthcare provider population

Author(s): Vicky Szu Hua Chiang Medical University of Lodz, Poland Presenting author: Vicky Szu Hua Chiang Tutor(s): Aleksandra Palatyńska-Ulatowska

Introduction:

The aim of the study was to examine the level of anxiety related to endodontic treatment among medical and dental students and healthcare professionals in Lodz. An evaluation of respondents' past experiences in receiving endodontic treatments was performed, and possible concerns in receiving endodontics treatments, such as peri- and post-treatment complications, were analyzed.

Methods:

166 anonymous questionnaires were distributed to 4 groups of medical and dental doctors (n=40 in each) and medical and dental students (n=43 in each). The respondents rated their fear level related to various dental procedures and listed reasons for concern in receiving endodontic treatments. Statistical analysis of questionnaires was performed.

Results:

Endodontic treatments and extractions were ranked as the top most feared dental procedures for medical students who found dental treatments were not strictly necessary to comply. The medical doctors were the group with the most dissatisfaction which correlated with their fear in receiving endodontic treatments distributed at the level of medium (scale 3-4) to medium-high (scale 7-8). 96.4% of dentists and dental students were familiar with the rubber dam, compared to just 21% of medical doctors and medical students.

Conclusions:

The main reasons for concern in receiving endodontic treatments according to all study groups were separated instruments, long visits for each treatment including the time spent laying in the chair, lack of qualified treatment providers and post-operation complications. The survey confirmed that endodontic treatments trigger relatively high anxiety and phobia in medical students and medical healthcare providers due to inadequate knowledge of endodontic procedures.

Key words: root canal treatment, dental phobia, endo anxiety, questionnaires, endodontics, patients' option.

Homogeneity of different composite resins used as core build up materials on glass fiber posts: scanning electron microscopy evaluation

Author(s): Zivile Oleinikaite, Zivile Zidonyte Lithuanian University oh Health Sciences, Lithuania Presenting author: Zivile Oleinikaite Tutor(s): Gediminas Skirbutis

INTRODUCTION: To restore endodontically treated teeth with significant loss of tooth structure need a post and core in order to retain final restoration. First choice of restoration is glass fiber post in combination with composite resins to directly build-up the core. Composite resins are most popular in core foundation materials due to the biomechanical and physical properties, bonding to the tooth structure and restoration. However, there still occure complications related to the core material.

AIM: To compare homogeneity of light cured composite and dual cured resin composite applied on glass fiber post.

MATERIALS AND METHODS: 20 intact extracted human maxillary incisors were included and stored in saline water. Specimens were treated endodontically, 2 mm. ferrule and 1 mm butt shoulder were prepared. Guttapercha was removed from the root canals, leaving 4 mm. Root canals were prepared for post insertion. The specimens were divided into 2 groups (n= 10): 1gr-core rebuild with dual cure resin composite, 2gr-core rebuild with light cured composite. Adhesive was applied into the canals and on posts. 1gr-posts were cemented into the canals and core was rebuild using dual cure resin composite in a single step. 2gr-posts were cemented into the canals using dual cure resin composite and cores were build up using light cured composite. Specimens were cut perpendicular to their long axis, processed for SEM observation. SPSS Version 22.0 was used to analyze the data and significance threshold was set to p<0,05 according to Mann-Whitney U, Spearman, Chi- Quadrat tests.

RESULTS: 80% of specimens showed absolute homogeneity, while 20% of specimens showed voids. In 1gr 90% of specimens had no voids and in the same group 10% of specimemens had one void smaller than 200μ m. In 2gr 70% of the specimens had no voids and 30% of the same group specimens had one void smaller than 200μ m.1gr showed greater integrity within the abutment than 2gr, but the difference was not significant (p=0.264).

CONCLUSIONS: There was no significant difference of homogeneity of light cured composite and dual cure resin composite, although the amount of voids was smaller in dual cure resin composite.

Dermatology



Coordinators: Natalia Bień, Magdalena Rogut,

Jury: dr n. med. Małgorzata Skibińska, lek. Klaudia Orłowska-Orlik, prof. dr hab. n. med. Anna Zalewska-Janowska,

Kaposi sarcoma or angiosarcoma - the role of differential diagnosis

Author(s): Aleksandra Ostrowska, Anna Bohdziewicz Medical University of Warsaw, Poland Presenting author: Aleksandra Ostrowska Tutor(s): Olga Warszawik-Hendzel

Introduction: Kaposi sarcoma (KS) is a generally indolent lymphovascular neoplasm, which pathogenesis is always connected with Kaposi Sarcoma Herpes Virus infection (KHSV). Four main types of Kaposi sarcoma include: classic, which usually appears on the lower extremity most often in the group of elderly men; endemic affecting the feet and legs inhabitants of the sub-Saharan region of Africa; AIDS related and iatrogenic. Angiosarcoma is a rare malignant vascular neoplasm with poor prognosis generally affecting the head and neck region. It may be triggered by radiation, lymphedema or in more than half cases by unknown factors.

Case description: A 90-year-old female patient was admitted to the Department of Dermatology of the Medical University of Warsaw with plenty of macules, patches and nodules located on the left leg. The character of lesions was hemorrhagic. The woman presented also oedema and severe pain of the left lower extremity. The first symptoms probably appeared three months ago. A biopsy of changed tissues was performed to evaluate their character and risk of malignancy, but the results were ambiguous. The patient died two weeks after admitting to the hospital.

Discussion: Differential diagnosis leading to Kaposi sarcoma or angiosarcoma should be complex and precise when a disseminated ulcerated extensive nodular lesion is located on lower extremities. Accurate analysis of clinical and histopathological data is necessary to make the right diagnosis. Histological features of these neoplasms are overlapping, therefore when pathology results are doubtful, histologathological examination taking into account immunohistochemistry should be repeated. Even through the classic Kaposi sarcoma is usually associated with favourable prognosis, it is important to note that about 2 percent has primary aggressive manifestation and high risk of mortality.

Skin condition assessment between vegans and regular diet users

Author(s): Gabija Rudzikaitė-Fergizė, Rugilė Rimšaitė Vilnius University, Lithuania Presenting author: Gabija Rudzikaitė-Fergizė Tutor(s): Edita Gaveliene

Introduction:

Veganism is a type of diet and also considered as a lifestyle that excludes all animal products and attempts to limit the exploitation of animals as much as possible. The vegan diet is becoming extremely popular nowadays. A lot of researches are done to evaluate whether it is beneficial to our health.

Aim of the study:

To evaluate skin condition of vegans and compare assessment to regular diet users.

Materials and methods:

339 respondents filled in an online survey to evaluate their skin, hair and nail condition: 79 vegans (64 women (81%) and 15 men (19%)) and 260 (225 women (86,5%); 35 men (13,5%)) regular diet users. The average age of the respondents - 26,7 years and average BMI accordingly - 21,22 and 22,9 kg/m2. The duration of using vegan diet was mostly raging from 1 to 5 years (60,8%) or more than 5 years (25%). 31,65% of vegans and 39,23% of regular diet respondents have or have had a skin disease. Most of them had acne, psoriasis, dermatitis and rosacea. The most common skin type in both respondent groups was combination and normal.

Results

There was a statistically significant difference in the assessment of their skin, hair and nail conditions between these groups (p=0,0001423): vegans evaluated their skin at the average 7,57 out of 10 (median 8), regular diet - 6.92/10 (median 7). 38 (48,1%) respondents in vegan group claimed to see the reduction on pustular and macropapular rashes. Moreover, according to the vegan responders their skin became less sensitive, dry and oedemic. These changes were statistically significant (p < 0.0001), comparing to the regular diet users' group. 22 out of 25 respondents who have a skin disease declare symptom reduction.

Hair condition evaluation statistically depends on the diet type (p= 0.0001986): Vegans evaluated as 8,35/10 on average (median 9), regular diet - 7,65/10 (median 8). 18 (22,8%) vegans declare decreased hair loss and 15 (18,9%) decreased scalp oiliness, that were statistically significant comparing to the control group (p < 0,0001).

The average nail score in vegan group was 8,47/10 (median 9), regular diet - 7,6/10 (median 8), it was statistically significant (p= 0,0001588). Comparing to the regular diet users - vegan responders' nails were statistically significantly (p < 0,0001) less brittle - 31 (39,24%) and firmer - 34 (43,03%).

Conclusions:

Vegans tend to evaluate their skin, hair and nail condition better than regular diet users. Vegan diet, according to the responders, reduces symptoms of skin diseases. Due to high risk of some nutrient's deficiency in vegan diet, the diet should always be supervised by a dietetic physician

From a phenomenon to redefined beauty? Survey study on acne positivity movement.

Author(s): Anna Stepaniuk, Marta Lewoc Aleksandra Czupowska Medical University of Białystok, Poland Presenting author: Anna Stepaniuk Tutor(s): Associate professor Anna Baran , Iwona Flisiak

Introduction

Acne vulgaris is a chronic inflammatory skin disease affecting the majority of young people, associated with detrimental effects on patient's self-esteem. However many social media users including celebrities and bloggers decide to publicly show their skin lesions to increase acceptance for this disease.

Aim

To determine how acne positivity movement influences young people's opinion on acne vulgaris.

Material and methods

The study was performed by using an anonymous questionnaire consisting of 39 questions which was posted on Facebook. 101 users shared their opinions regarding acne and social media.

Results

In the group of 101 responders almost 90% were between 19 and 24. 82,2% were females and 17,8% males. Almost 85% ever had acne and face was most commonly involved (88,8%). 58% of the responders were treated by the dermatologist. Almost half of the group who suffered from acne used only topical drugs while the other 50% used both topical and oral. 55% of the group had acne at the moment of completing the questionnaire. 44,6% agreed that acne affects the way they spend free time. Over 30% claimed it has influenced their life choices. Almost 25% of our responders think social media made dealing with acne harder in real life while over 80% of them declaire spending there more than an hour daily. More than 25% always cover acne in content they post and almost 43% agree that they feel less valuable becaue of stigma around this desease on social media. 81,2% of studied persons thought health care professionals should discuss acne more on social media. However only 22% of our responders think that acne is a very common disease.

Conclusion

Social media have a strong impact, due to constant presence in young people's everyday life.

Patients coping with acne vulgaris are severely affected by negative aura surrounding this disease on social media. This fact has not been changed so far by acne positivity movement. Our survey showed that health care professionals underestimate the power of virtual reality and should place emphasis on improving the picture of acne.

Contact Allergy to Formaldehyde and Formaldehyde Releasers

Author(s): Gabija Rudzikaitė-Fergizė Vilnius University, Lithuania Presenting author: Gabija Rudzikaitė-Fergizė Tutor(s): Laura Malinauskiene

Introduction: Formaldehyde and formaldehyde releasing preservatives (FRPs) are common causes of contact allergy positive in 2-9% of patch tested dermatitis patients. As usage of formaldehyde is not allowed in cosmetics, the increasing incidence of sensitization to it may be due to the increased use of FRPs in cosmetics.

Aim of the study: to evaluate the link of contact allergy to formaldehyde and FRPs.

Material and methods: In 2014-2018, 358 patients with suspected contact dermatitis were tested with the European baseline and cosmetic series (Chemotechnique Diagnostics (Velinge, Sweden) in Vilnius University Hospital Santaros Klinikos, Pulmonology and Allergology centre. 333 (93%) patients were female, 25 (7%) - male, average age 37,4 years; 34,4% had an atopic disease. Patch tests included formaldehyde 2,0% aq. and FRPs: quaternium-15 1,0% pet., diazolidinyl urea 2,0% pet., imidazolidinyl urea 2,0% pet., 2-bromo-2-nitropropane-1-3-diol (bronopol) 0,25% pet., and DMDM hydantoin 2,0% aq. The readings were performed on day 3, 4 and 7 by an allergologist trained to perform patch testing. Outcomes were interpreted according to the guidelines of European Society of Contact Dermatitis. Data was analyzed with Microsoft Excel and R Commander, the level of statistical significance (alpha) - 0,05.

Results: Out of 358 patients tested, 32 (8,9%) were positive to formaldehyde and 21 (5,9%) to FRPs: 9 (2,5%) to quaternium-15, 5 (1,4%) to DMDM hydantoin, 3 (0,8%) to diazolidinyl urea and 2 (0,6%) each to imidazolidinyl urea and bronopol. 57,1% of positive FRPs cases were observed in patients with allergy to formaldehyde. Out of 32 patients who had a positive patch test to formaldehyde, 24 (75%) patients had no reactions to FRPs, other 8 showed 12 positive reactions to FRPs in total. One patient was sensitized to 4 different FRPs and formaldehyde.

Statistically significant dependence was found between sensitization to formaldehyde and diazolidinyl urea (p=0,0004), imidazolidinyl urea (p=0,0412), quaternium-15 (p=0,02123) and DMDM hydantoin (p < 0,00001), but not bronopol (p=0,65). Allergy to formaldehyde did not depend on sex, site of dermatitis or presence of atopic diseases.

Conclusions: Contact allergy to formaldehyde is related to positive skin patch test reactions to FRPs diazolidinyl and imidazolidinyl urea, quaternium-15 and DMDM hydantoin, but not bronopol. However, 75% of patients allergic to formaldehyde did not show sensitization to any FRPs.

Off-label prescriptions for children with atopic dermatitis discharged from the Paediatric Dermatology Ward

Author(s): Michał Niedźwiedź Medical University of Lodz, Poland Presenting author: Michał Niedźwiedź Tutor(s): Aleksandra Lesiak

Introduction: Off-label medication use involves the prescription for unapproved indication, dosage, duration of treatment or age range, which all can be found in the Summary of Product Characteristics (SmPC). Prescribing off-label is not deemed illegal, however under certain circumstances it may be treated as a medical experiment and/or may not be covered under medical insurance terms for the prescribing doctor. Atopic dermatitis is the most common chronic skin condition in children.

Aim of the study: The aim of the retrospective study was to investigate the scale of prescribing medications off-label regarding indications and age range in paediatric patients with atopic dermatitis discharged from the dermatology ward.

Material and methods: Fifty consecutive discharge letters of paediatric patients admitted to the Paediatric Dermatology Ward in 2019 were analysed regarding gender, age, concomitant diagnoses and medications prescribed on discharge. All prescribed medications were divided into topical and systemic and were checked according to Summary of Product Characteristics regarding registered indications and registered age of the treated patients. The prescriptions for so called "specials" were excluded from the study as there are no SmPC available for them.

Results: A total of 50 children (21 female and 29 male) were included in the study with their mean age of 6 years (range: 4 months - 17 years). All together 181 medications were prescribed on discharge, including 106 topical and 75 systemic with 64 prescribed off-label (35.4%). Out of 106 topical medications 26 (24.5%) were prescribed off-label regarding registered indications and 12 (11,3%) regarding the age of the patients. In the systemic medications group 24 (32%) were prescribed off-label as atopic dermatitis was not a registered indication and 8 (10.7%) as the age of the patients was outside SPC specification.

Conclusions: Prescribing off-label appeared to be more common in paediatric population in all specialities as there are fewer clinical studies performed in this age group. According to the literature up to 60% of children prescriptions are off label which is in agreement with the results of our study (35.4%). As off-label medications may be necessary to give patients the best options of treatment, physicians should consider following a set of rules for off-label prescriptions to avoid ethical and legal problems with the patients and Health Regulators.

Analysis of hospitalization in the dermatology ward of children in provincial hospital in 2015-2019

Author(s): Emilia Knez Medical University of Lodz, Poland Presenting author: Emilia Knez Tutor(s): Aleksandra Lesiak

Introduction: Skin diseases have a significant impact on the quality of life of children, young people and their parents. Over recent years the problem of dermatoses has been increasing. A large discrepancy in the age of patients in children 's wards requires appropriate diagnosis and treatment.

Aim: The aim of the study was to analyze the reasons of hospitalization at the dermatology ward in children patients.

Material and methods: A retrospective analysis of medical records from 2015-2019, was performed. The study group consisted of 2476 patients (including 1262 female and 1214 male) who were admitted to the dermatology ward for children of the Bieganski Provincial Specialist Hospital in Lodz. Patient data were analyzed for age, gender, length of stay and medical diagnosis (ICD-10).

Results: The least numerous group were infants (0-1 years) - 10%, younger children (2-11 years) and older (12-18 years) accounted for 59.5% and 30.5% respectively. Mean age was 7,2 years and length of stay was 4,5 days. The main reason for admission was atopic dermatitis (43.3%) in each age group in both sexes and the frequency of admission for this reason is systematically increasing from year to year. Psoriasis vulgaris accounted for 9,6% admission. Urticaria and hemangiomas were diagnosed in about 8% of patients. Lichen sclerosis and bullous disorders were rarely observed.

Conclusions: Atopic dermatitis were the leading group of admission patients at the dermatologic ward for children. The adequate cooperation between specialist, young patients and their parents are important. Emphasis on education in atopic skin care can be an important element limiting the need for hospitalization for this reason.

The analysis of the reasons for hospitalization allows to assess the health condition of the children 's population and direct the development of treatment methods.

Epidemiological Profile of Alopecia Areata throughout 2015-2019s in a Dermatology, Pediatric and Oncological Dermatology Clinic of the hospital. dr. W. Biegańskiego, Łodź.

Author(s): Karolina Brzychcy, Joanna Krzysiek Medical University of Łódź, Poland Presenting author: Karolina Brzychcy Tutor(s): Aleksandra Lesiak

Introduction:

Alopecia areata (AA) is a complex autoimmune condition that causes non scarring hair loss. Incidence is estimated at 0.1-0,2% of general population, depending on the geographic location and ethnic background. Although it is generally considered that there is no sexual dichotomy, some studies show that the prevalence seems to shift to women at the age of 45.

Aim of the study:

The aim of this study retrospective analysis of the population of patients with alopecia areata in the years 2015-2019.

Material and methods:

This is a retrospective cross-sectional, study conducted in analysis clinical documentation data between 2015 and 2019. The study involved all of the patients diagnosed with ICD10 L63 code for primary diagnosis of alopecia areata hospitalized in Department of Dermatology, Paediatric and Oncologic Dermatology in Lodz. A statistical analysis was performed including gender, age, place of residence and mean length of hospital stay.

Results:

In the years 2015-2019 233 hospitalized of alopecia areata were reported. The number of female patients significantly dominated in both adult and pediatric population :73 girls (32,7%), 38 boys (17%) gender ratio (M/F):0,52; 86 women (39,6%), 26 men (11,7%) gender ratio: 0,3. The results show that most of the patients lived in city, the mean age was 7,5 (95CL= 6,5-8,6) years among children and 40 (95CL= 36,8-42,9) among adults. Younger patients have a longer average length of stay compared with older patients. The most common medical diagnosis of Alopecia areata based on ICD10 is L63.9 (Unspecified Alopecia areata) - 131 cases (72%), then L63.8 (Other alopecia areata) - 28 cases (15%), L63.1 (Alopecia universalis) 13 cases (7%), L63.2 (Ophiasis) 4 cases (2%), and L.63 (general term of Alopecia Aerata) 6 cases (3%). The average duration of alopecia areata before admission was 51 months (96CL=38-65) for all the patients. The longest average duration of alopecia areata was marked by women and stand at 73 months (95CL=46,76-99.8).

Conclusion:

Current results indicate predisposition for alopecia areata mainly concerns woman, after the fourth decade of life. The prevalence of hospitalization on the female side also works in the population of children, which average age hesitates between 7-10 age. We observe an increase in hospitalization due to alopecia areata after 2015, while the duration of hospitalization decrease significantly in 2019. The vast majority of diagnoses related to the non-specific form of alopecia areata - regardless of gender and age.

Therapeutic compliance and causes of its lack in a group of patients with atopic dermatitis treated with topical calcineurin inhibitors

Author(s): Stanisław Póljanowski, Magdalena Trzeciak Roman J. Nowicki Medical University of Gdańsk, Poland Presenting author: Stanisław Półjanowski Tutor(s): Magdalena Trzeciak

Introduction:

Atopic dermatitis (AD) is a chronic inflammatory disease of skin with periods of exacerbations and remissions. Treatment is based on topical anti-inflammatory drugs such as topical corticosteroids and calcineurin inhibitors (TCIs) which are used as an alternative to topical corticosteroids. TCIs are preferred for treatment of vulnerable areas and proactive therapy (tacrolimus). Due to existence of steroid phobia among patients with atopic dermatitis, we decided to find out whether a similar phenomenon occurs with TCIs.

Aim of study:

Determination of the extent to which patients with AD obey recommended treatment in the form of TCIs and to determine what are the possible reasons for not using them.

Material and methods:

We gathered a base of 150 questionnaires from people treated with TCIs. 95% of subjects are women, aged 17-52(avg. 31y, SD=6,7). 76% have an university degree.

Statistical analyzes were carried out using the Excel package. Spearman rank correlation test was performed, the t test and the asymmetry measures were calculated.

Significance level: alpha = 0.05

Results:

62% of interviewees (n=93) always obey recommended treatment.

Older and better educated patients present higher compliance to the rapeutic recommendations (p<0.05, p<0.05)).

There is no correlation between patients 'knowledge of adverse drug reactions and compliance to the rapeutic recommendations (p<0.05).

78% of parents of children with atopic dermatitis fully comply to recommended treatment compared to 45% in the group of adult patients.

Causes of non-compliance:

Fear of local side effects of TCIs (32,7%) Fear of systemic side effects of TCIs (30,8%) Respondents find TCIs harmful to their health (28,8%) Too high price of the drug (25%) Interviewees claim that they do not want their bodies to get addicted to TCIs (23%) Malaise experienced as a side effect of TCIs (17%) TCIs worsen their skin condition (17%) Lack of time to apply the drug thoroughly (13,5%) Not informed about benefits of regular use of TCIs (9,6%)

Conclusions:

This study shows what the patient should be informed about before prescribing TCIs in order to improve therapeutic compliance and eventually the results of treatment.

Knowing why patients do not comply to the recommended TCIs treatment will improve its results by eliminating the modifiable reasons for non-compliance.

Education is necessary. We should especially focus on young, uneducated patients and rather on adult patients than parents of sick children.

Clinical characteristics of Vitiligo in Lithuania

Author(s): Gintare Ulianskaite, Agne Timinskaite Vilniaus Universitetas, Lithuania Presenting author: Gintare Ulianskaite Tutor(s): Matilda Bylaite-Bucinskiene

Introduction: Vitiligo is an aquired chronic skin disease of unknown origin, which manifest in a loss of pigment in the skin or mucosal surface. It is also the most common cause of depigmentation of the skin worldwide and affects around 0,5% of population.

Aim of the study: The aim of the study was to assess the clinical characteristics patterns of vitiligo in Lithuania.

Material and methods: 131 respondents completed an anonymous 41/20-question questionnaire. The prevalence of disease, demographics, clinical characteristics, received treatment were assessed. 125 who were 16 or older were included in the study. Data was analyzed using Microsoft Excel®, IBM SPSS®.

Results: The respondents consisted of 31 men (24.8%) and 94 women (75.2 proc.). The mean age was 35.1 ± 12.2 years. The majority (62.4%, n=78) have acquired higher education. For the first time the lesions appeared at the mean age of 21.2 ± 12.36 years. It manifested in one area of the body for 87 respondents (69.6%) and in most cases (46.4 proc., n=58) the upper extremities were affected. Usually the lesions, which were mostly symmetrical (71.2%, n=89), affected 1-25% of body area. Before the manifestation of Vitiligo 73 respondents (58.4%) experienced stress. The majority (54.4%, n=14) noticed the disease in the summer. 90 (72%) respondents do not have a family history of vitiligo. Only 14 (11.2%) respondents during the last 3 months observed improvement in their skin condition. 56% (n=70) had at least 1 treatment, usually (48.57%, n=34) - a phototherapy. 22.4 percent (n=28) respondents think that the disease is not curable. 32.8% (n=41) have at least 1 co-morbid condition, of which 41.46% (n=17) autoimmune thyroiditis is the most common.

Conclusion: The study demonstrates that vitiligo in Lithuania manifests in young adults, usually women. The lesions are usually symmetrical, manifest in upper limbs and affects 1-25% of body area. The numbers of the improvement of the skin condition are low.

Diet and nutritional habits of patients with psoriasis

Author(s): Agnė Timinskaitė, Gintarė Ulianskaitė Vilnius university, Lithuania Presenting author: Agnė Timinskaitė Tutor(s): Edita Gaveliene

Introduction: Psoriasis is a complex immune-mediated chronic inflammatory skin disease which manifest as a cutaneous erythematous silvery scaly plaques and affects around 3-4 % of population. The environmental factors such as diet plays a modifying role in contribution to its patogenesis, manifestation, severity.

Aim of the study: The aim of the study was to assess the nutritional habits of people affected by psoriasis and its impact to the disease in Lithuania.

Material and methods: 162 respondents completed an anonymous 31-question questionnaire. The demographics, psoriasis related questions and nutritional habits were assessed. 162 who were 18 or older were included in the study. Data was analyzed using Microsoft Excel®, IBM SPSS®.

Results: The respondents consisted of 17.9% men (n=29) and 82.1% women (n=143). The mean age was 35,3 years. The most common forms of psoriasis were plaque (49,4%, n=80) and scalp (69,1%, n=112) psoriasis. Mean age when the disease was diagnosed is 17,67 years. The vast majority (72,8%, n = 118) have psoriasis for >10 years. 54,3% (n=88) have a family history of psoriasis. The average BMI of respondents was 26,2 kg/m 2, 34 (21%) of them were obesed (BMI >30) 42,6% (n=69) respondents associate the disease flare-ups with their nutritional habits. 82,7% (n=134) respondents eat irregularly and 46,9% (n=76) - have 3 meals per day. Consumption of water is between 2-3 (32,7%, n=53) and 4-6 (32,1%, n=52) glasses per day. 42,6% (n=69) respondents consume vegetables on a daily basis. The respondents consume white flour dishes (40,1%, n=65), dairy products (40.1%, n=65), fruit (32.1%, n=52) and fish (67.9%, n=110) 1-2 times a week. Meat based products are consumed 3-5 times a week. The majority (85,8%, n=139) consume plant based oil and eat fast food (53,7%, n=87) 1-2 times per month. 2/5 of respondents (39,5%, n=64) do not use added sugar and (46,3%, n=75) consume sweets 1-2 times per week. 23,8% of respondents never use nutritional supplements. 63,6% (n=103) drink 1-2 cups of coffee daily and smoke. The majority indicated that the condition of the skin improved after the elimination of gluten or alcohol from their diet and no changes were observed after the elimination of pork, red meet or salt from their diet. The consumption of fish oil and vitamin D have improved skin condition for 26 (16%) and 27 (17%) respondents, while the use of probiotics have improved the condition of the skin for only 11 (7%).

Conclusion:

According to the survey, nutritional habits impact the manifestation and flare-ups of psoriasis. Most respondents indicated that their skin condition had improved by elimination of gluten, white flour products and alcohol from their diet. No changes of the skin were observed after the elimination of pork, red meet or salt from the diet .

Knowledge and behavior regarding sun protection and skin cancer prevention among medical professionals

Author(s): Rugile Rimsaite, Jorinta Kazlauskaite Vilnius University, Lithuania Presenting author: Rugile Rimsaite Tutor(s): Matilda Bylaite-Bucinskiene

Introduction .Non-dermatological medical professionals, including physicians, nurses and other trained caregivers, are often the first ones to recognize, evaluate and refer patients of suspicion to dermatovenerologist consultation. Medical workers tend to preach what they practice, and their personal health-related attitudes and habits impact their counselling. Therefore, all health-care professionals should be able to provide evidence-based information on sun protection and have the practical skills needed to suspect early-stage skin cancer.

Aim of the study. To evaluate knowledge and personal habits regarding sun protection and skin cancer prevention.

Material and methods. 442 voluntary respondents answered an anonymous online questionnaire. The questions were designed to evaluate respondent's knowledge regarding skin cancer prevention and sun protection, also personal habits and approaches were investigated. 237 of respondents were female, 205 men. Average age was 32,62 years. The respondents were assigned to a group based on their field of work, 131 of respondents were medical professionals and 311 respondents' work was not related to the field of medicine. The latter was used as a control group. Mean age of medical group was 26,12 and in non-medical group 35,33 years.

Results. Upon evaluating the questionnaire results, the median score of medical professionals' group was 12/33 and median score of non-medical respondents' group was 6/33 points. Medical professionals had better knowledge regarding skin cancer prevention (p=0,0001). Only 38 respondents were aware of Euromelanoma campaign in Lithuania, 27 of them were medical professionals. 108 respondents knew the ABCDE skin cancer signs, 87 of them were in medical professionals' group and 21 were in control group. There was a statistically significant difference between the two groups compared (p<2,2e-16), as medical professionals were better at identifying ABCDE signs. When asked whether they know what basal cell carcinoma and melanoma is, medical group respondents answered "yes" significantly more often (p<2,2e-16). The overall use of sun protection cream did not correlate with the medical knowledge - medical professionals did not use it more often compared to control group (p>0,05). However, medical professionals were more like to use of sun protection creams that had SPF 30, 50 than general public (p=0,0177).

Conclusions. Medical professionals have better knowledge regarding skin cancer prevention and sun protection compared to general public. Despite that, their results did not reach at least half of total points, meaning that their knowledge may not be sufficient for effective skin cancer prevention counselling. It seems that medical professionals tend to have better sun protection habits than general population. It is hoped that this research will raise awareness and stimulate further actions that provide evidence-based information about skin cancer prevention for medical community.

Use of tanning devices - incidence and reasons among Lithuanian population

Author(s): Jorinta Kazlauskaitė, Rugilė Rimšaitė Vilnius University, Lithuania Presenting author: Jorinta Kazlauskaitė Tutor(s): Matilda Bylaite-Bucinskiene

Introduction. Based upon evidence of multiple studies, indoor tanning has been shown to increase the risk of developing melanoma. The risk is higher for individuals being young at the time of tanning initiation and the risk correlates with the frequency of tanning session s. Although there is a rise in awareness about health hazards of tanning devices, "sun therapy" remains a popular way of recreation in general population.

Aim of the study. To investigate the incidence and reasons behind tanning device use in Lithuania.

Material and m ethods. A total of 685 voluntary respondents answered an anonymous online questionnaire. The questions focused on tanning behavior, also respondent's knowledge regarding skin cancer prevention was evaluated. 486 of respondents were women and 199 - men. The average age was 31,86 years. 95,2% were currently living in the city. 406 had a higher education, 151 were still studying in university, 25 had a professional degree and 103 had graduated high school. 24,8% are using indoor tanning devices and 75,2% are not using them at all. 24 respondents use tanning device once a month, 24 several times per month, 24 once a year, 44 once in a half year, 54 less than once a year.

51,4% enjoyed sunbathing outdoors and 79,4% were using sun protection cream. Respondents' knowledge regarding skin cancer prevention was evaluated, the average respondent's score was 9,4/33.

Results. The main reason for tanning chosen by 87 respondents was beauty, 66 respondents tan before going on holiday to warm climate countries, 47 use it to improve their mental state, 44 are seeking to increase their level of vitamin D, 15 are tanning to relieve acne symptoms, 7 are tanning to relieve psoriasis, 7 are tanning to relieve dermatitis, 4 are tanning because of peer influence, 3 are tanning influenced by family members. Women use indoor tanning for beauty reasons significantly more than men (p=0,0001). Use of tanning devices does not correlate with education (p>0,05), but does correlate with age (p=0,010). The median age of respondents' that use tanning devices is 24 and of those who do not - 27. Respondents that use tanning for psychological state improvement are statistically older (median age is 29, p=0,0246). Usage of indoor tanning devices is statistically higher in the group of respondents who like sunbathing outside (p<2,2e-16). Skin cancer prevention knowledge test result did not correlate with the use of tanning devices (p>0,05). Median score in tanning device user and non-user groups were the same - 7/33.

Conclusions. About a quarter of respondents use tanning devices. Young people are more likely to seek an artificial tan. Cosmetic purposes are the main reason for tanning, as tanned skin is considered beautiful by respondents. The habit of tanning outdoors and indoors is strongly associated and may reinforce each other.

Tattoos and chronic dermatoses - a survey among psoriatic patients

Author(s): Paula Walczak, Patrycja Rogowska Medical University of Gdansk, Poland Presenting author: Paula Walczak Tutor(s): Aneta Szczerkowska-Dobosz, Paula Walczak

Introduction:

Tattooing is a popular phenomenon in the general population of Western countries. Psoriasis is not a strict contraindication for tattooing, however the affected patients should be informed about potential complications that can occur after the procedure.

Aim of the study:

The aim of this study has been to assess what are the motivations for getting a tattoo among psoriatic patients as well as the impact of tattooing on psoriasis self-acceptance by patients. We also wanted to evaluate the prevalence and character of the complications associated with tattoos in psoriatic patients. Moreover we investigated whether the subjects of the study consulted a dermatologist before getting a tattoo.

Materials and methods:

We performed an anonymous questionnaire collected from patients of the dermatology clinic as well as from online groups dedicated to patients with psoriasis, having tattoo. Our survey was divided into three parts: the first one- focused on demographic data, the second part- concerned the course of psoriasis and the third part-contained questions about the tattoo procedure.

Results:

The study involved 52 psoriatic patients. All of them had at least one tattoo. 57,5% of the respondents suffered from generalized psoriasis and were diagnosed before 40 years old (94,2%). In 79,6% of the cases, tattoos were carried out after psoriasis onset. The main motivation to get a tattoo was seeking an improvement in body appearance (76, 9%). 7,7% of the patients were consulted by dermatologists before receiving a tattoo. 4 out of 52 suffered from complications after having a tattoo and none of them had dermatologist consultation before the procedure. Having a tattoo improved the level of psoriasis acceptance in 15,4% of the cases investigated.

Conclusions:

Having a tattoo can improve the patients' level of acceptance of their disease and help them in better expressing their personality. Alarmingly, only 7,7% of all the patients were consulted by dermatologists before tattooing, which can indicate that the knowledge about the risks associated with tattoos in psoriatic patients is inadequate. Additionally, as an increasing number of dermatological patients are getting tattoos, we believe that a better cooperation between tattoo artists and dermatologists is needed.

Basal cell carcinoma in an 18 yo patient with the heterozygous MUTYH gene mutation: a case report

Author(s): Magdalena Lichy Istanbul University - Cerrahpasa Medical Faculty, Turkey Presenting author: Magdalena Lichy Tutor(s): Dursun Dorukhan Altinisik

Basal cell carcinoma (BCC) is a locally invasive, keratinocyte cancer which is the most common type of skin cancer. Risk factors for BCC include mainly fair skin and exposure to ultraviolet light - sun damage and repeated prior episodes of sunburn. Rarely, inherited syndromes lead to BCC, particularly Gorlin syndrome.

An 18 yo Caucasian woman was registered with 6 years of history of multiple pinkish papulonodular lesions in size 1 mm on her face. Moreover, she suffered from bronchial asthma and chronic gastritis. The dermatologic examination showed 1 nodular lesion on the right temporal and 1 - on the right malar area. The dermatoscopy revealed arborizing vessels and absence of pigment network. The punch skin biopsy for the histopathology evaluation was performed. It showed solid, metatypical BCC on the right temporal and solid, infiltrative BCC on the right malar area. The decision to excise both of the lesions was made and realized. Due to early age of BCC and family history (aunt 33 yo and cousin 16 yo with BCC) the patient was referred to the genetic department. The genetic tests revealed heterozygous mutation in MUTYH gene which is responsible for the repair of DNA. Its mutation cause mainly familial adenomatous polyposis but also sporadically thyroid cancers and BCC. The performed PET-CT of this patient did not show any extracutaneous findings. Finally, the sun protection and annual follow-up were recommended.

In conclusion, the emphasis should be put on the importance of genetic tests in case of the young patient with BCC. The quick diagnosis of concomitant mutation may be crucial for further evaluation of the patient. Moreover, BCC may lead to an infiltration surrounding tissues and cosmetically disfiguring changes if it is diagnosed too late.

Diabetology and Endocrinology



Jury:

lek. Karolina Kunecka , dr hab. n. med. prof. UM Zbigniew Adamczewski, dr n. med. Melania Mikołajczyk-Solińska, dr n. med. Marcin Kosmalski,

EFFECT OF INTERLEUKIN BETA AND RESISTIN ON DEVELOPMENT OF CARDIOMYOPATHY IN TYPE 2 DIABETES

Author(s): Mohammed Kassim, Sokolnikova N.V Kharkiv national medical university, Ukraine Presenting author: Mohammed Kassim Tutor(s): L.V Zhuravleva

Introduction. Type 2 diabetes occurs when our body becomes resistant to insulin and pancreas produce more insulin to compensate and later pancreas becomes decompensated. Type 2 diabetes is major risk factor for cardiovascular disease.

The purpose of the study. was to determine the effect of interleukin-1 beta (IL-1 beta) and resistin to development of cardiomyopathy (CMP) in patients with diabetes mellitus (DM) type-2.

Materials and methods. Our work is part of study of the Department of Internal Medicine and Endocrinology Kharkiv National Medical University (Diabetes mellitus and co-morbid pathology). An analysis of the survey data was performed with 102 patients with type 2 diabetes with disease duration from 1 to 9 years. Depending on the degree of CMP, patients were divided into groups: group 1 (n = 38) - with moderate CMP expression, significant distribution factor was body mass index (BMI) of less than 28.5 kg/m2, group 2 (n = 64) - with severe CMP expression (BMI of more than 28.5 kg/m2). The control group consisted of 20 healthy individuals

The levels of resistin and IL-1 *beta* in serum was determined by ELISA according to standard instructions. Statistical analysis of the results was carried out Statistica 7.0.

Results.

The levels of IL-1 beta (pg/ml) in the blood serum of patients with DM type 2 of the 1st and 2nd groups (11,34 \pm 0,25 and 14.76 \pm 0.28 respectively) were higher (p <0 .05) compared to the control group (8,12 \pm 0,24). Resistin levels in patients of the 2nd group (13,19 \pm 0,18, ng/ml) was

significantly higher than in patients of the 1st group (10,51 \pm 0,25, ng/ml, p <0.05) and control group (10,06 \pm 0,35, ng/ml, p <0.05). significant correlations was found between the levels of IL-1 beta and resistin in patients of the group 1 (R = +0,589, p = 0,00010), and patients in group 2 (R = +0,450, p = 0,00019).

Conclusions.

The levels of IL-1 *beta* and resistin were significantly higher in patients with severe cardiomyopathy. The presence of relationship between Resistin and IL-1 *beta* can demonstrate the interaction and influence on the formation of diabetic myocardial damage of these cytokines.

Thus in patients with type 2 diabetes with a BMI of more than 28.5 kg/m2 and increased levels of proinflammatory IL-1 beta and resistin is an additional risk factor for the formation of diabetic CMP, which is a precursor to heart failure.

Analysis of the ultrasound image of thyroid nodules in different types of thyroid neoplasms

Author(s): Aleksandra Idzik, Magdalena Radziszewska Medical University of Warsaw, Poland Presenting author: Aleksandra Idzik Tutor(s): Agnieszka Żyłka

Introduction

Thyroid cancer is the most common endocrine malignancy. In ultrasound assessment (USG) of the potential malignancy of thyroid nodules the EU-TIRADS scale is most commonly used. It takes into account most significant features of malignancy to assess the risk of a nodule being cancerous. The majority of thyroid cancers constitutes of Papillary Thyroid Cancer (PTC, over 80%), whereas Follicular Thyroid Cancer (FTC), Medullary and Anaplastic cancers are more rare. Thyroid nodules can also contain a benign tumour - an adenoma.

Aim of the study

The aim of the study was to evaluate the USG features of neoplastic thyroid nodules, analyze them with respect to their histopathological type and assess applicability of EU-TIRADS scale.

Material and methods

Our study included 188 patients admitted in 2018 to Oncology Centre, Warsaw, who were suspected of having or had confirmed a thyroid malignancy. Each patient underwent thyroid USG and then thyroidectomy. The histopathological results confirmed the type of tumor in each patient. Hence descriptions of nodules (one of most distinctive nature per patient) of confirmed type were analyzed

Results

In PTC, most of the 130 patients had hypoechoic (86.1%) and solid (93.1%) nodules that varied in shape. 34% had microcalcifications. Most (51.5%) had peripheral vascularity pattern. Only in 7.7% suspicious pathological lymph nodes were seen. 91.5% of nodules scored 5 in TIRADS

In FTC, most of the nodules in 24 patients were hypoechoic (83.3%) and solid (79.2%) of mostly round (58.3%) shape. 41.7% of nodules had a peripheral halo of decreased echogenicity and 16.7% had microcalcifications. 54.1% had peripheral vascularity pattern and 29.2% presented capsular bulging. 79.2% of nodules scored 5 in TIRADS.

Medullary cancers (8 patients) were mostly hypoechoic and solid, with variety of shapes. 50% of them had a halo effect and in 50% of cases microcalcifications were found. 62.5% presented intranodular vascularity pattern. All nodules scored 5 on TIRADS scale.

95.5% of adenomas had oval shape and 63.6% presented a peripheral halo sign. Only 4% contained microcalcifications. TIRADS scores were heterogenous - 13.6% scored 3, 36.5% - 4, 50% - 5

There were a few patients diagnosed with other types of cancer, but due to their small number no pattern could be established or analyzed.

Conclusion

Most of neoplastic nodules were described as hypoechoic and solid. Many presented alarming features like peripheral halo or microcalcifications. Except for medullary cancer, other neoplasms had peripheral vascularity pattern, which can be wrongly interpreted as a calming sign in estimation of potential malignancy. The assessment of traits associated with malignancy included in EU-TIRADS scale is crucial to the diagnosis of thyroid neoplasms, as it allows to correctly predict the character of suspicious nodule.

Increased risk of arterial hypertension in hyperinsulinemic subjects with normal fasting glucose

Author(s): Milena Leziak, Klaudia Żak Sylwiusz Niedobylski, Michał Piwoński Medical University of Lublin, Poland Presenting author: Milena Leziak Tutor(s): Katarzyna Skórzyńska-Dziduszko

Introduction:

Euglycemic hyperinsulinemia (EH), defined as normal fasting glucose together with elevated fasting insulin, may contribute to the risk of cardiovascular diseases. However, t his condition remains usually undiagnosed as individuals with EH are asymptomatic, and the fasting insulin level assessment does not belong to routine blood tests.

Aim of the study was to investigate arterial pressure in patients with elevated body weight, which were classified into three groups: 1/ with both normal fasting insulin and glucose (NFG); 2/ with EH; 3/ with impaired fasting glucose (IFG).

Material and methods: A total of 50 non-smoking individuals (30 females - F and 20 males - M) with the body mass index (BMI) higher than 25 kg/m2 were enrolled in the study (the median BMI was 29.8 kg/m2). None of the individuals presented any subjective feeling of any disease (particularly any cardiovascular disorder), nor had they been previously diagnosed with any chronic disorder. None admitted to drug treatment for any condition. All of the patients were screened for arterial hypertension. For screening glycemia a two-hour 75 - gram oral glucose tolerance test (OGTT) was performed. Plasma insulin

levels in the fasting state were evaluated by enzyme-linked immunosorbent assay (ELISA). The patients with the impaired glucose tolerance (n=8) or diabetes (n=3) were excluded from the study. The data were analyzed using STATISTICA 10.0 software.

Results: Six patients were classified into IFG group (3F, 3M), 10 patients into EH group (9F, 1M), and 23 into NFG group (18F, 5M). There were no statistically significant differences between age, weight and BMI between three groups. Arterial hypertension was diagnosed in 17 patients: 3 individuals (50%) with IFG; 8 patients (80%) with EH; and only 6 subjects (26%) with NFG. The systolic pressure (p=0.02), the diastolic pressure (p=0.003), and the mean arterial pressure (p=0.003) were significantly higher in patients with EH or IFG than in NFG subjects.

Conclusions: High incidence of arterial hypertension and the higher values of the systolic and diastolic pressures in subjects with euglycemic hyperinsulinemia show that these patients develop a significantly higher risk of cardiovascular disorders. For identifying such patients, fasting insulin level assessment may be added to routine blood tests.

Alterations in thyroid hormone levels in diabetic patients and their contributions to diabetes-related atherosclerosis

Author(s): Keerthana Sivakolundu, Govindharajalu K Mariyappan A, Narasiman A.C. Government Kilpauk Medical College and Hospital, India Presenting author: Sivakolundu, K.P Tutor(s): Komala Govindharajalu

Introduction

Thyroid hormone levels often fluctuate in patients with type-2 diabetes mellitus (DM). The clinical implications of this fluctuation remain unknown. Previous research has shown that small changes in thyroid hormone levels increase the risk of DM-related complications such as atherosclerosis. Because DM-related atherosclerosis is mediated by oxidative damage, we hypothesized that thyroid hormone levels affect the anti-oxidative functions of high-density lipoprotein (HDL) in DM patients. This alteration in the anti-oxidative properties of HDL are reflected as DM-related atherosclerosis.

Aim of the study

To correlate the thyroid hormone levels with the anti-oxidative function of HDL in type-2 DM patients. Methods and methods

We conducted a case-control study that comprised of fifty DM patients with no prior history of thyroid abnormalities and fifty age-, sex-matched healthy controls. Thyroid hormone levels (free T 3 , freeT 4) and thyroid stimulating hormone (TSH) levels were evaluated in all participants using enzyme-linked immunosorbent assay. The antioxidant properties of HDL were assessed by measuring the levels of serum paraoxanase-1 (PON-1) Results

DM patients had significantly higher free T 4 compared to healthy controls (p=0.001). Free T 3 levels were significantly reduced in DM patients than controls (p=0.041). There were no group-differences in TSH levels. PON-1 levels were significantly reduced in DM patients compared to healthy controls. In addition, PON-1 levels increased with increases in free T 3 levels in DM patients. No such changes were observed in healthy controls.

Conclusion

We found that thyroid hormone levels are affected in DM patients. Furthermore, thyroid hormone levels predicted alterations in anti-oxidative properties of HDL. These findings implicate the importance thyroid hormone fluctuation in DM patients and their potential contribution to DM-related atherosclerosis by reducing the anti-oxidative properties of HDL. Furthermore, this study highlights the importance to carefully manage thyroid hormone levels in patients with DM.

Predictors of hypertension and prehypertension among paediatric population with type 1 diabetes mellitus.

Author(s): Aleksander Kowal, Marta Lasota Olga Racińska, Jędrzej Chrzanowski Medical University in Lodz, Poland Presenting author: Olga Racińska Tutor(s): Iwona Pietrzak, Agnieszka Szadkowska

1. Introduction:

Type 1 diabetes mellitus (DM1) frequently promotes macroangiopathy and nephropathy leading to the development of arterial hypertension. Automatic 24 hours blood pressure monitoring (ABPM) is valuable and recommended method for diagnosis of hypertension.

2. Aim of the study:

The aim of the study was to determine risk factors of the development of prehypertension (preHT) and hypertension (HT) among the children with DM1.

3. Material and Methods:

The study was a retrospective longitudinal analysis of pediatric population evaluated using ABPM. Each patients' ABPM records with matching biochemical and biometric parameters were collected. Ambulatory arterial stiffness index (AASI) and dipping status were calculated for each observation based on the ABPM records.

Results:

The study included 131 (F57, M74) patients with 467 observations. Patients on enrolment were mean 12.2+/-2.0 years, with the mean duration of diabetes 3.96+/-3.97 years and mean HbA1c 7.35+/-1.35%, without established arterial hypertension and drugs affecting blood pressure value. Each patient had ABPM at least three times, the average time between ABPM observations was 1.8+/-0.7 years. Based on the first ABPM HT was diagnosed in 4 patients and preHT in 35 patients.

Normotensive patients in the first measurement (n=92) were divided into (1) the group which developed preHT or HT (n=47) and (2) the group which remained unchanged blood pressure (n=45). In the observation preceding the diagnosis of HT or preHT the group 1 had significantly higher mean level of total cholesterol (TC) 4.53 vs 4.09 mmol/l (p=0.008) and HbA1c 7.5 vs 6.9 % (p=0.005). No significant differences were found in mean age, median duration of diabetes, mean BMI z-score and mean AASI retrospectively. Survival analysis of baseline normotensive patients indicated that persistent non-dipping vs at least one dipping reported in two different observation is a risk factor of developing HT or preHT (p < 0.001).

PreHT patients in all observations (n=72) were divided into 3 groups: (1) the group with remission to normal blood pressure (n=44), (2) the group remaining unchanged (n=21) and (3) the group progressing to HT (n=7). Mean level of cystatin C was significantly higher in the group which developed HT: [1: 0.84 mg/l, 2: 0.80 mg/l, 3: 1.12 mg/l p < 0.001]. There were no significant differences in age, duration of diabetes, BMI z-score and AASI.

Linear regression model revealed the positive relationship in changes of cystatin C level and AASI (R=0.29, p=0.02).

5. Conclusions

In young type 1 diabetic patients dyslipidemia, increased HbA1c, cystatin C level and persistent non-dipping status are risk factors of high blood pressure. Besides the change in AASI was positively correlated with the change in cystatin C level.

Optimized HbA1c estimation based on the Continuous Glucose Monitoring records

Author(s): Arkadiusz Michalak, Jędrzej Chrzanowski Aleksandra Łosiewicz, Hanna Kuśmierczyk Medical University of Lodz, Poland Presenting author: Arkadiusz Michalak Tutor(s): Agnieszka Szadkowska, Beata Mianowska Wojciech Fendler

Introduction

Despite its methodological and clinical limitations, HbA1c remains the gold standard for the assessment of glycemic control and long-term prognosis in type 1 diabetes (T1D). Estimation of the HbA1c level without the need for laboratory measurement would be beneficial for the patient and clinician. Unfortunately, the current estimation methods based on the Continuous Glucose Monitoring (CGM) records can only approximate the HbA1c level with 1-1.5% [11-16.4 mmol/mol] error. A possible solution for this problem would be the application of other measures of glycemic control based on CGM or patient's clinical features.

Aim

To develop the predictive model of HbA1c level based on CGM data and clinical features.

Material and methods

Data were collected from the T1D patients treated in 2016-2019 in the outpatient clinic at the Department of Pediatrics, Diabetology, Endocrinology and Nephrology, Medical University of Lodz, Poland. The analysis included 28-day records before the HbA1c measurement, with at least 75% of daily measurements in the CGM records. The learning and testing set consisted of records from patients with more than 2 HbA1c-CGM pairs. The testing set was curated using the leave-one-out procedure. The validation set included data from patients with exactly 2 HbA1c-CGM pairs. Records were preprocessed using Python and analyzed with Statistica 13.1.

Three predictive models were developed:

- 1. Mixed linear regression including the patient's ID.
- 2. A linear regression model including past HbA1c and other glycemic control measures.
- 3. A linear regression model including the past error of HbA1c estimations.

Results

Altogether, 723 HbA1c-CGM pairs from 174 patients were collected. The mean age of the patients was 9.9+/-4.4 years, duration of diabetes 3.7+/-3.6 years. The 1st model provided the best prediction of patients included in the model construction (R2=0.83, MARD=3.5%). It performed much worse on the new patient data, limiting its possible clinical application. The 2nd model included other glycemic control measures - median and J-index. New patients could be included in the 2nd model using the information on historic HbA1c values and mean and standard deviation of glucose. The 2nd and 3rd models performed much better on the new patients (R2=0.76, MARD=4.2%; R2=0.75, MARD=6.5%). The errors of the HbA1c estimation model were more consistent through time in the 3rd model, which would be beneficial in the clinical setting.

Conclusions:

Constructed models performed much better than current methods of estimation of HbA1c using shorter CGM records. The estimated error of the HbA1c remains relatively consistent within the patient. The 3rd model appears to be optimal for clinicians in providing long-term care of T1D patients.

Minimum Continuous Glucose Monitoring record time and observations number sufficient for a reliable clinical interpretation

Author(s): Arkadiusz Michalak, Jędrzej Chrzanowski Przemysław Kucharski, Konrad Pagacz Medical University of Lodz, Poland Presenting author: Arkadiusz Michalak Tutor(s): Wojciech Fendler, Agnieszka Szadkowska Beata Mianowska

Introduction

Currently available Continuous Glucose Monitoring (CGM) systems provide data about interstitial glucose concentration every 5 or 15 minutes. These accumulated data can be used to investigate short- and long-term glycemic variability (GV) in patients with diabetes. Due to the device/sensor and patient-related issues CGM records are however prone to data loss. Standardized CGM data interpretation requires the minimum of 14 days with at least 70% of time CGM is active. The impact of quantity and pattern of data loss in CGM records on calculated GV indices is currently unknown. This poses a question of clinical value and comparability of CGM recordings of short duration with a high percentage or a longer ones but with a low percentage of active CGM time.

Aim

The aim of the study was to determine the minimum length of CGM records and minimum active time necessary for a reliable short and long-term GV assessment.

Materials and methods

CGM records from pediatric patients with type 1 diabetes of at least 1 year duration, were collected between 2015 and 2019. Data were processed using Python. Calculated GV indices included: mean, median, standard deviation (SD), coefficient of variation (CV), times: below, in, and above range (TBR, TIR, TAR respectively).

First, we used >80% complete 180-day CGM records to determine minimal record duration needed to calculate GV indices corresponding with short-term and global GV parameters. Next, we used a broader set of records (variable length, >90% complete) to determine the necessary completeness needed for reliable GV estimation in these established periods. CGM data were removed using the algorithm reconstructing patterns of data loss from real CGM traces. For each GV and period, minimum sufficient data completeness was defined as % of data for which GV stayed within 5% of the one calculated for full data.

Results

Data from 451 patients were collected with the median time of CGM records 202 (98-368) days, i.e. 331.96 years of data were analyzed.

Using 21 records, length for short and long-term GV assessment was determined as 7 and 35 days respectively. From collected records, we selected 25810 of 7-day and 5047 of 35-day CGM records with at least 90% of time with CGM active. The most robust GV for data loss were mean and CV, and the least robust were TBR < 54 mg/dL and TAR > 250 mg/dL. Minimum number of daily observations for which GVs were within 5% from the source record were 70% for 7-days and 30% for 35-days intervals.

Conclusions

Short and long-term GV may be investigated using deficient CGM records but they have to provide data with >70% or >30% active time for 7 and 35-day recordings respectively, to prevent significant loss of information.

Comparing measurement accuracy of two generations of the FreeStyle Libre to glucometer during a summer camp for T1D youth

Author(s): Aleksandra Łosiewicz, Arkadiusz Michalak Hanna Kuśmierczyk, Jędrzej Chrzanowski Medical University of Lodz, Poland Presenting author: Aleksandra Łosiewicz Tutor(s): Agnieszka Szadkowska, Kinga Rusiecka Andrzej Gawrecki, Dorota Zozulińska-Ziółkiewicz Dorota Zozulińska-Ziółkiewicz, Wojciech Fendler

Introduction

Flash Glucose Monitoring System FreeStyle Libre (FSL, Abbott) allows for minimally invasive measurements of glycemia in the interstitial fluid with high frequency. FSL thus is considered an FDA-approved alternative to traditional measurements in the capillary blood (SMBG). Given that many factors could influence the accuracy of measurements performed by the FSL, there is a need to evaluate whether the technical improvements increase the FSL system's accuracy and safety in real-life conditions.

Aim of the study

To compare 2 generations of FSL systems (A,B) to SMBG in T1D children during a summer camp. Material and methods

During two summer camps for youth with T1D in 2016 and 2019, the participants used different FGM systems: FSL-A and FSL-B respectively. On scheduled days, participants performed 8-point glucose profiles with FSL and SMBG under the supervision of medical staff. Glucose trend arrows and other clinically-meaningful tags were assigned to each measurement. The accuracy of FSL versus SMBG was assessed in terms of mean absolute relative difference (MARD) and using clinical surveillance error grid (SEG).

Results

The analysis included 1655 paired measurements for FSL-A/SMBG and 1796 for FSL-B/SMBG gathered from 78 and 58 patients respectively (mean age:FSL-A:13 \pm 2.3 years; FSL-B:13.8 \pm 2.3 years,p=0.0549;mean HbA1c:FSL-A:7.6 \pm 0.8%;FSL-B:7.5 \pm 1.1%,p=0.6371). FSL-B displayed lower MARD than FSL-A (11.3 \pm 3.1% vs 13.7 \pm 4.6%, p=0.0003) and lower standard deviation of errors (20.2 \pm 6.7mg/dl vs 24.1 \pm 9/6mg/dl,p=0.0090) but similar bias (-7.6 \pm 11.8mg/dl vs -6.5 \pm 8mg/dl,p=0.5240).

Accuracy of both FSL-A and FSL-B significantly dependended on the current glucose trend (p < 0.0001), with MARD being higher in both FSL-A and B groups when glycemia was rapidly decreasing (>2mg/dl/min; MARD for FSL-A: 22.3%;FSL-B:17.9%), and in the case when the system could not define the trend of glycemic change (FSL-A:16.5%;FSL-B:15.2%). A significant decrease in accuracy was also observed between daytime and nighttime measurements (FSL-A:14.9 \pm 14% vs 12.8 \pm 11.4%; FSL-B:11.2 \pm 10.6% vs 8.9 \pm 9%, both p < 0.0001), after main meals versus before the meals (FSL-A: 15.7 \pm 15.1% vs 12.2 \pm 11.3%; FSL-B: 13.3 \pm 12% vs10.1 \pm 9.7%, both p < 0.0001) and during physical activity (mountain trips-MARD 16.6 \pm 18% vs daily activities 11.4 \pm 9.7%).

Altogether, FSL-A and FSL-B demonstrated a high percentage of results in class A or B risk categories of SEG (FSL-A: 96.4%, FSL-B: 97.6%) however, a significant shift of measurements from B to A category was noted (FSL-A:16/80.4%; FSL-B:12.3/85.3%,p=0.0012).

Conclusions

The second generation of FSL demonstrates higher accuracy of measurements in real-life conditions for T1D children when compared to the first generation. However, there still are clinical situations in which patients should expect the accuracy of the measurement to drop. In such situations, the verification of the measurements with a glucose meter is advisable.

Impact of lifestyle, adherence to the doctors' recommendations, reported and real self-measurement of blood glucose (SMBG), on the metabolic control in patients with type 2 diabetes mellitus (T2DM).

Author(s): Michalina Jurkiewicz, Klaudia Czarnik Judyta Hałucha Medical University of Lodz, Poland Presenting author: Michalina Jurkiewicz Tutor(s): Monika Żurawska-Kliś, Marcin Kosiński Katarzyna Cypryk

Introduction

Effective management of type 2 diabetes mellitus (T2DM) is a main factor in prevention against development of complications. In order to gain satisfying metabolic control, a patient has to follow medical recommendations concerning self-monitoring of blood glucose (SMBG) and pharmacotherapy as well as implement appropriate lifestyle changes. According to available data, costs of SMBG constitute a major part of financial means allocated to diabetic patients' care. Still, efficacy of SMBG in T2DM remains uncertain as data contained in publications vary significantly.

Aim of the study

The aim of the study was to assess the impact of lifestyle, coexisting health conditions, applied treatment, reported and real frequency of SMBG on metabolic control of T2DM.

Methods

The study included 186 outpatients with T2DM attending diabetes clinic. Patients were questioned in compliance with standardized questionnaires which were completed by researchers. Data from the glucometers' storage was collected. Data concerning the medical interview, lifestyle, SMBG, pharmacotherapy were subjected to an analysis with regard to efficacy of metabolic control of DM, measured as a level of glycated hemoglobin (HbA 1c).

Results

The mean age of patients included in the study was 67.2 ± 9.46 years, the mean duration of T2DM was 9.0 ± 8.28 years, the mean level of HbA 1c was $6.65\pm1.07\%$. Data from 41 glucometers (22%) was obtained. The levels of HbA 1c were statistically higher in patients with longer duration of T2DM (r s =0.217), treated with insulin (p=0.000038), reporting episodes of hypoglycaemia (p=0.0013), declaring more frequent SMBG (r s =0.1885) and higher usage of glucometer strips (r s =0.3275). Levels of HbA 1c were positively correlated with the number of insulin injections (r s =0.3689) and diel doses of insulin (r s =0.3708), whereas they were negatively correlated with age of a patient (r s =-0.1857) and the declared adherence to the doctor's recommendations about the frequency of SMBG. There was no statistically significant impact of: sex, place of residence, years of education, reported physical activity, reported dietary restrictions, type of oral medication, chronic complications of T2DM (diabetic foot, nephropathy, neuropathy), understanding of the term - glycated haemoglobin, knowledge of target levels of glycaemia on empty stomach and after meals and existing of comorbidities. The actual number of blood glucose measures by a glucometer was significantly lower than the reported one (p=0.0002).

Conclusion

Metabolic control deteriorates with duration of T2DM and it is worse in patients treated with insulin. Also, patients reporting higher intensity of SMBG and more frequent episodes of hypoglycaemia have worse metabolic control. The reported frequency of SMBG is significantly higher than the actual one. Dietary restrictions and physical activity declared by the patients, as well as the frequency of SMBG, are not connected with better diabetes management.

Forensic Medicine



Coordinators: Anna Lubnauer, Emilia Walczak,

Jury:

dr n. med. Anna Smędra , dr n. med. Katarzyna Wochna, dr n. med. Piotr Łabętowicz ,

Paracetamol-induced liver necrosis as a cause of death

Author(s): Gabriela Kanclerz, Wojciech Koziołek Gabriela Szypuła, Patrycja Szczepaniak Jagiellonian University Medical College, Poland Presenting author: Gabriela Kanclerz Tutor(s): Tomasz Konopka

Introduction:

Diffuse hepatic necrosis is a sign connected with many fatal diseases- it may result from organ ischemia, chronic liver disease or poisoning. Deaths caused by liver necrosis are rare, because there are only a few substances leading to this condition- white phosphorus, amanitin and carbon tetrachloride. Also paracetamol, which is a relatively safe and commonly used drug, can lead to liver necrosis after overdose.

Moreover, this complication may be developed when liver damage features appear or due to a long-term alcohol abuse at a dose three times lower than in a healthy person. Over the past few years, there have been an increasing number of deaths from hepatic necrosis, probably paracetamol poisoning in combination with alcohol

Aim of the study: The aim of the study is to identify deaths cases caused by diffuse hepatic necrosis, determine the cause of necrosis and possibly its association with paracetamol poisoning.

Materials and methods:

In our research we have considered 2583 cases from years 2016-2019 in which diffuse hepatic necrosis had occured, with central hemorrhagic necrosis predominating. We have rejected cases with stated cause of death other than liver necrosis and patients, who had died in hospital due to multiple organ failure or due to accident. We have considered cases of death in a street or in apartament with no other change than liver necrosis in internal organs which could lead to a death.

Results:

In years 2016-2019 there were 7 cases of death with no unambiguous cause of death and with hepatic necrosis. Some of them were connected with alcohol or paracetamol intake. In most of examined cases patients were alcoholics or homeless. All of the cases were men, with medium age 49 y.o., and apart of liver necrosis they had hepatic steatosis.

Conclusion:

Hepatic necrosis should be concidered as a possible cause of death, even though it is rare. Long time gap between toxin intake to death make it difficult to prove poisoning as a cause of death in lab tests. Althouh, lab test should be sugested during prosecution investigation in order to exclude liver necrosis as an insulate cause of death.

Foeticide in Poland during interwar period

Author(s): Jerzy Król, Kamil Hapkiewicz Gabriela Kanclerz, Patrycja Szczepaniak Jagiellonian University Medical College, Poland Presenting author: Jerzy Król Tutor(s): Tomasz Konopka

Foeticide widely known as abortion is reported since antiquity. During interwar period termination of pregnancy was legally forbidden in Poland. Hence this obstacle women were compelled to seek solutions for their unwanted pregnancy in unprofessional hazardous methods which often led to death of both mother and foetus.

The aim was to analize methods of abortion utilzed among Polish women during interwar period and consequences of such actions.

We investigated autopsy protocols from years 1920-1939 gathered in The Department of Forensic Medicine in Cracow. We found 101 cases of illegal lethal foeticides. We excluded 7 cases of abortion due to medical indications made legally in hospital.

The age of deceased women varied from 15 to 42 years. The average age was 27,91. In almost 21% of cases, the abortion was carried out by a accoucheuse. Physician was present in less than 2% of the procedures performed. In majority of protocols, the way in which pregnancy was terminated is not known. In 26.7% of remaining cases abortion was performed through usage of tools such as wire or catheter. However, in the majority of cases the used instrument remains unknown. The method for an abortion by injection/rinsing out a fetus was carried out in 8.9%. In 88% of cases there were signs of trauma in the uterus; in 9,9% it was perforated. The remnants of the amniotic sac were present in 48% of protocols, while uterine abscessus in 37%. In vast majority of cases a cause of death was fibrino-purulent peritonitis and sepsis that developed from it. The source of inflammation was located in uterus.

Unwanted pregnancy must have been difficult situation during interwar period. Since abortion was illegal lots of women decided to use unprofessional and hazardous methods which often led to death. In the majority of cases we could not recognise the method of abortion. Among identified were mostly mechanical or injection. The most common consequence was an inflammation, that resulted in fibrino-purulent peritonitis and sepsis.

A CASE OF A COMPLEX UNPLANNED SUICIDE INVOLVING A RAILROAD ACCIDENT AND SELF-STABBING

Author(s): Justas Mezelis Vilnius University, Lithuania Presenting author: Justas Mezelis Tutor(s): Sigitas Laima

Introduction: Suicide is a common manner of unnatural death. Complex suicide is defined as a combination of two or more potentially lethal ways to induce death. There are two types of complex suicide - planned and unplanned. The first one is defined as using two or more ways to induce death simultaneously whereas the second one is when two or more methods are put in place in succession, for the first one being unsuccessful, too slow or painful.

Case report: A 44 year-old man was found lying on a railroad after being hit by a train. The facts were in favour of an obvious traffic accident until during an autopsy a single stab wound was found in chest, penetrating through lungs. This required a more detailed investigation resulting in a broader view of person's suicide manner. Investigation of person's home and video surveillance in railway station revealed that the person tried to commit suicide by self-stabbing and without a lethal outcome used a more lethal way to induce death by being hit by a train. This is now defined as an unplanned complex suicide.

Conclusions: a detailed criminal investigation combined with crime scene inspection and autopsy examination are a must to determine the cause of death of a person who committed suicide. Complex suicides by self stabbing must be differentiated from homicides by stabbing as there are cases where homicides are staged as suicides.

Changes in the number of pulmonary embolisms during last 20 years

Author(s): Mateusz Suchmiel, Jan Roczniak Karolina Brózda, Michał Kozicz Jagiellonian University Medical College, Poland Presenting author: Mateusz Suchmiel Tutor(s): Tomasz Konopka

Introduction: Pulmonary embolism is a severe complication of hospitalization which often leads to patient 's demise. Because of that, during the last 20 years many new drugs and other prevention methods had been developed and applied in hospitals, which should have resulted in a decrease of embolic events among hospitalized patients.

Aim of the study: To assess whether new methods of prevention are effective and the number of deaths caused by pulmonary embolism has decreased.

Material and methods: We used historical data stored in the Department of Forensic Medicine UJ CM. We chose three periods of time: years 2016-17, year 2006 and years 1996-1997. In each period we selected only these autopsies, which were performed after a death of a hospitalized patient, approximately 200 autopsies per period. Later we investigated descriptions of the selected autopsies in search for an embolic material in the pulmonary arteries.

Results: Our study has shown no significant change in the percentage of hospital deaths caused by a pulmonary embolism. The percentage was 1,55% (n=3) in the years 1996-97, 0,95% (n=2) in the year 2006 and 0,96% (n=2) in the years 2016-17. However, the number of hospital deaths due to pulmonary embolism in respect of time has significantly decreased - the average occurrence was 0.2308 deaths per month (n=3) in the years 1996-97, 0.1667 deaths per month (n=2) in the year 2006 and 0.0833 deaths per month (n=2) in the years 2016-17. Conclusions: The number of cases which we have found is small, but if we were to draw conclusions from them, they would be as following. The results have shown that deaths caused by a pulmonary embolism occur more rarely than 10 years ago and even more rarely than 20 years ago. This change could have been caused by improvements of the prevention methods.

Sudden Death from Pulmonary Artery Thromboembolism. Retrospective Study

Author(s): Karolina Šakytė, Martinas Baltuonis Vilnius University, Lithuania Presenting author: Karolina Šakytė Tutor(s): Sigitas Laima

Introduction. Pulmonary thromboembolism is the major potentially fatal complication of deep vein thrombosis. Clinical presentation of venous thromboembolism is nonspecific, accurate incidence is not entirely known. Medicolegal autopsy remains the diagnostic gold standard for the cause of death.

Aim . The aim of this study was to analyse circumstances, demogaphics and patomorphologic findings of sudden deaths due to pulmonary thromboembolism.

Material and methods. Retrospective analysis of Lithuanian State Forensic Service 2013-2019 autopsy data. Sudden unexpected death due to pulmonary thromboembolism were registered in 104 cases from a total of 6132 autopsies. Data collected including demographics, autopsy and laboratory findings, the main cause of death . Statistical analysis was performed using SPSS v. 25.0. Data was tested for normality using a Kolmogorov-Smirnov Test, a Student's T-Test was used for analysis of normally distributed continuous data, not normally distributed - Mann-Whitney Test. Categorical variables were compared using χ^2 or Fishers exact test where expected frequencies were less than 10. P-value less than 0.05 was considered statistically significant.

Results . Study included 51 (49 %) male and 53 (51%) females. Mean overall age was 63.58 ± 16.46 years. Death occurred in hospital in 23 (22.11%) cases. Post-traumatic thromboembolism occurred in 14 (13.5%) cases from which 10 (71.4%) were hospitalised before death. Heart-height index based cardiac hypertrophy was detected in 91 (87.5%) autopsies. Abdominal subcutaneous fat thickness was 3.97 ± 2.47 cm in males and 4.99 ± 2.598 cm. in females. Deep vein thrombosis was detected in all cases being the cause of death in 87 (83.65%). Second most common cause of death - traumatic injury 12 (11.54%).

Conclusion. Pulmonary thromboembolism most commonly occurs in older than 45 y. who have deep vein thrombosis with concomitant cardiac hypertrophy and abdominal obesity. Pulmonary thromboembolism most commonly occurs out-of-hospital but still threatens the hospitalised especially after traumatic injuries.

Analysis of cases of medical malpractice - types and causes of confirmed medical errors

Author(s): Justyna Maniak, Marta Bociąga Katarzyna Ciuk, Monika Kaciczak Jagiellonian University Collegium Medicum, Poland Presenting author: Justyna Maniak Tutor(s): Tomasz Konopka

Introduction

Lawsuits against physicians are becoming more and more common in medical professionals' everyday life. Aim

The aim of the study was to determine what kind of medical cases are most commonly evaluated in situations with medical errors.

Materials and Methods

There were 122 expert opinions in cases of medical errors in the archives from 2018 and 2019.

 $34\ (27,87\%)$ of them were confirmed by the opinion to be medical error. There were 20 men (58,8%) and 14 women (41,2%) among the patients that were the victims. Their mean age was $47,7\pm19,7$. There were 22 civil and 12 criminal cases.

Results

We identified 13 types of medical errors. There were 16 cases (25,4%) of not performing imaging examinations, 2 (3,2%) of misinterpretation of laboratory tests, 6 (9,5%) of not examining the patient, 6 (9,5%) of not performing the laboratory tests, 7 (11,1%) of bad differential diagnosis, 4 (6,3%) of refusal of hospitalization, 12 (19%) of bad treatment, 2 (3,2%) of lack of documentation, 2 (3,2%) of lack of information for the patient, 1 (1,6%) case of instrumentation left in the patient, 1 (1,6%) of bad decision of pregnant woman transport, 3 (4,8%) of not performing endoscopic examinations, 1 (1,6%) of bad hospital organization. 22 (64,7%) of the cases resulted in death of the patient. Among most common reasons of death there were cardiac arrest (n=5, 22,73%), gastrointestinal haemorrhage (n=5, 22,73%), subdural hematoma (n=3, 13,64%). The errors occurred in the following places: 15 (44,1%) times in the Emergency Room, 6 in the Surgery Department, 4 in the Gynecology & Obstetrics, 2 in the Night Medical Service, 2 in the ambulance of emergency medical team, 1 in the operating theatre, 1 in the Intensive Care, 1 in the gastroenterology outpatient clinic, 1 in the orthopedic outpatient clinic, 1 in the Neurology Department.

Conclusions

According to our study, only about 28% of the cases turn out to be confirmed medical errors. The observed medical errors were mostly the results of not following the common rules, such as not performing the imaging examinations or simply not examining of the patient. Most of them could have been avoided by following the guidelines in accordance with the latest medical knowledge.

Criminal mutilation from 1905 - case report

Author(s): Iga Grabarczyk, Agnieszka Woźniacka Anna Gabryś, Anna Tabor Jagiellonian University Medical College, Poland Presenting author: Iga Grabarczyk Tutor(s): Tomasz Konopka

Introduction

Corpse dismemberment is a rarely seen cause of homicide in which a perpetrator severs the body. Although nowadays cases of dismemberment are examined by the Cracow Department of Forensic Medicine only once per few years, killers have known this particular way of murder since many years. The oldest case of criminal mutilation in Cracow was described in post-mortem examination's protocol number 16"S" in the year 1905, which described autopsy of newborn's corpse dismemberment.

Aim of the study

Aim of the study was to analyse the post-mortem examination protocol of the victim as well as to find every article describing the case in order to check what the public opinion's reaction, murderer's motive and general circumstances were.

Materials and methods

To accomplish the study we looked through every journal and newspaper that was published in Cracow in 1905, among all of these we chose 17 titles with the highest probability of having articles about the case. Then every magazine was read in a digitized version, which was available in Polish Digital Libraries Federation.

Results

Articles and mentions about the case of newborn's corpse dismemberment were found in 4 newspapers - "Czas", "Nowa Reforma", "Głos narodu" and "Przegląd Lekarski". In these journals was mentioned the discovery of the body, as well as a lawsuit of child's mother, who turned out to be a murderer.

Conclusions

This homicide was not as popular among journalists as it probably would be these days. It is quite surprising not only because the child was killed by the mother, but also because of the fact that cases of kids' corpse dismemberment (and specifically newborns) are extremely rare. It is unprecedented to such an extent that this case has been the only one described in archives of Cracow Department of Forensic Medicine so far. Keywords mutilation, newborn, death, dismemberment, historical

Gynecology and Obstetrics

Coordinators: Aleksandra Wąsowska, Jakub Jajczak,

Jury:

prof. dr hab. n. med. Krzysztof Szaflik, dr n. med. Jacek Pasiński , dr n. med. Dorota Estemberg , dr n. med. Anita Sikora-Szubert, lek. Paulina Pająk , dr hab. n. med. Grzegorz Surkont , lek. Agnieszka Żalińska,

Group B Streptococcus culture in pregnancy - comparison of rectovaginal and cervical sampling results

Author(s): Aleksandra Szczesna, Agnieszka Dobrowolska-Redo PhD MD Medical University of Warsaw, Poland Presenting author: Aleksandra Szczesna Tutor(s): Agnieszka Dobrowolska-Redo, Ewa Romejko-Wolniewicz Joanna Kacperczyk-Bartnik

Introduction

Vaginal colonization with group B Streptococcus (GBS) increases the risk of neonatal and maternal complications. About 10-30% of women are colonized with the pathogen. During the third trimester of gestation, the risk of perinatal mortality associated with preterm birth and early-onset GBS infection is present. The GBS infection may jeopardize mother's health postpartum, causing maternal sepsis. The newborn may develop neonatal and infant GBS invasive disease, septicemia, meningitis and further impairment of development. Effective screening prevents invasive GBS infection in infants, pregnant and postpartum women.

Aim of study

The aim of the study was to compare Streptococcus agalactiae culture screening accuracy of rectovaginal and cervical samples.

Material and methods

240 patients between 35 th and 37 th

week of gestation admitted to the outpatient clinic in a tertiary referral center were enrolled in the study. All women had undergone two types of bacteriological culture collected from cervical swab and rectovaginal swab during the antenatal consultations. The samples were assessed in microbiological testing to reveal GBS colony. 34 of the results were excluded due to incomplete microbiological test.

Results

Out of 206 patients included in the analysis, 164 (80%) were not colonized with GBS in both methods of sampling. 42 women had at least one positive result of the GBS culture sample. Almost a half of them, 22 women (11%) had positive testing result in both cervical and rectovaginal samples. Bacteriological testing for GBS was positive in 19 patients (9%) based on rectovaginal swab only.

Conclusion

The prevalence of GBS colonization in pregnant women of the study was 20%. Results of GBS culture obtained by these two methods - rectovaginal and cervical sampling -

are different in approximately 1 in 10 patients.

Influence of psychosicoal factors on the effectiveness of infertility treatments

Author(s): Beatriz Sá Pereira Universidade da Beira Interior, Portugal Presenting author: Beatriz Sá Pereira Tutor(s): Renato Silva Martins, Cristina Batista Brito

Introduction: Infertility is a rising problem in our society, with an increasing incidence in the past years. Since it is an interaction of multifactorial causes, and demands great effort associated with personal suffering, it is imperative to adopt an integrated view where pathophysiology processes are intimately related to social and psychological processes.

Aims of the study/purpose: This study aims to identify the factors that contribute to the effectiveness of infertility treatments, taking into account not only the clinical but also the psychosocial component.

Material and Methods: This is a retrospective study of 278 couples followed from 2015 to 2018 at Infertility consultation, in the Reproductive Medicine Unity at Centro Hospitalar Universitario Cova da Beira. Data was collected on the causes of infertility, the treatments performed and their effectiveness. The aim was to cross these data with clinically relevant psychological symptoms, through Brief Sympton Inventory and Infertility's Problem Inventory, in order to assess the stress inherent on their condition. Statistical analysis is performed using SPPS.

Results: Couples have been trying to get pregnant for an average of 2.59 years. 33.7% have secondary infertility, in which there was abortion in half of the cases. In the studied sample, the combination of both male and female factors is shown as the most prevalent cause, making the feminine cause slighlty more frequent than the male. Second line treatments (in vitro fertilization and intracytoplasmatic sperm injection) are more frequently used than artificial intrauterine insemination, being this last one the most successful in terms of pregnancy rates (73,3%). Spontaneous or unknown pregnancy (27%) got higher rates of efficiency, reaching term in 85,3% of the cases, being associated with idiopathic infertility. The most prevalent symptom in both genders is Paranoid Ideation, with emotional disorders being significantly more prevalent in women, as well as social and sexual concern. The need for parenting and the rejection of lifestyle are the factors that most concern both elements of the couple.

Conclusions: It was found that the psychosocial component of the couple has an influence on the infertility treatment process, with impact on its outcome. Symptoms such as depression, anxiety, hostility, phobic anxiety, and paranoid ideation were superior in woman that did not get pregnant after the treatment, as well as in men. The need of becoming a mother is significantly bigger in women with successful treatments. On the other hand, somatization is related to abortion. Regarding male individuals, sexual and relationship concern are associated with lower probabilities of giving birth. Anxiety, hostility and being paranoid diminishes the probability of conceiving.

Risk factors and preterm birth in cervical insufficiency among pregnant women treated with cervical pessary. Retrospective study.

Author(s): Antonina Oboz-Adaś, Katarzyna Kuźniar Michał Stefan University of Rzeszów, Poland Presenting author: Antonina Oboz-Adaś Tutor(s): Grzegorz Dworak

Introduction: The cervix is a mechanical barrier separating the fetus from the outside world. Cervical insufficiency (CI) is defined as painless cervical dilation and shortening before 37 weeks of gestation leading to miscarriage or preterm delivery. It affects 0.1-1.8% of pregnant women and has multifactorial causes. Current guidelines focus on 3 methods of treatment: cervical cerclage, vaginal progesterone therapy and cervical pessary, which is increasingly preferred therapeutic option due to minimally invasive nature and low risk of side effects. In recent years, the numbers of scientific reports on the effectiveness of cervical pessary in CI has grown significantly.

Aim of the study: Identification of the risk factors affecting the duration of pregnancy in women with Ci treated with cervical pessary, and factors affecting cervical length in pregnancy.

Material and methods: A retrospective analysis of documentation of 236 patients from Department of Gynecology and Obstetrics in Clinical Regional Hospital No. 2 in Rzeszów was carried out. The pregnant women were hospitalized between 2017 and 2019 due to CI and cervical pessary placement. The following factors were taken into account: age, number of pregnancies and deliveries, single or multiple pregnancy, cervix length in ultrasound examination and week of pregnancy during qualification for therapy, culture of vaginal swab, diabetes, hypothyroidism, hypertension, previous Caesarean section (CS), vaginal therapy with progesterone, week of delivery and newborn sex. The data was subjected to statistical analysis and statistically significant results was obtained.

Results: The use of progesterone in pregnant women with cervical pessary doubled the chances of full-term pregnancy in the examined group (odds ratio OR=2.2; Pearson's chi-squared test p=0.02). No effect of vaginal culture and Group B Streptococcus colonization has been shown to delivery at 37 weeks of gestation. In the study group, the number of previous births proved to be a factor affecting the chance of full-term pregnancy (Pearson's chi-squared test p=0.02). Comparison of single and multiple pregnancies showed a 37-fold increase in chances of premature delivery in twin pregnancies (odds ratio OR=37.3). Treatment with cervical pessary and additional factors such as the patient's age, previous CS and comorbidities listed above did not affect the chances of delivery of a full-term newborn among the examined group of pregnant women.

Conclusions: The use of progesterone supplementing cervical pessary in CI increases the chances of full-term pregnancy, which is clinically significant. Infection of the reproductive tract during cervical pessary placement does not affect pregnancy. Hypothyroidism, hypertension, diabetes and previous CS do not affect pregnancy. Cervical insufficiency in multiple pregnancy is associated with a significantly increased risk of preterm delivery compared to single pregnancy with CI.

The popularity and usability of mobile applications for women and expecting mothers

Author(s): Anna Grądzik, Dagmara Klimek Medical University of Warsaw, Poland Presenting author: Anna Grądzik Tutor(s): Iwona Szymusik

Introduction

In the 21st century, mobile applications make everyday life easier for users. There are also many applications for women, including those planning to conceive, being pregnant or having a small child. These applications have various functions, among others: menstrual cycle control, information about fetal development, labor contractions counting or lifestyle advice.

Aim of the study

To assess the popularity, usability, most frequently used functions and expectations of users in relation to mobile applications designed for period tracking, for pregnant women and for parents.

Material and methods

The study was conducted in the form of a self-prepared, anonymous survey shared on social media from November 2019 to January 2020. The survey consisted of 53 questions and was divided into 3 parts: concerning applications for period tracking, for pregnant women and for parents.

Results

522 correctly completed questionnaires were analyzed. The average age of respondents was 28 years (17-44 years). While completing the survey 52.7% of women were pregnant. The main sources of knowledge about pregnancy and motherhood were: Internet (90.4%) and doctor (73.5%). 78.7% of participating women used period tracking applications. The most useful functions were: date of period (94.7%), fertile days and ovulation (86.4%) and menstrual cycle regularity (58,2%). Thanks to the application 69.1% of women felt better prepared for the gynecological appointment and 61.6% considered application helpful during pregnancy planning. 86.6% of women used pregnancy tracker applications. The most useful features were: information about week of pregnancy (98.5%), child development (95.3%) and countdown to childbirth (83%). Using application during pregnancy: 74.8% of women felt more aware and 68.6% enjoyed the expectation time more. Parenting applications were the least popular - only 25% of respondents used them. 54.8% of them felt more confident taking care of the newborn thanks to the application. Education, place of residence and age did not affect the use of pregnancy and period tracking applications, while parenting applications were most often used by women aged 23-26, with higher education and living in cities with more than 500,000 inhabitants.

Conslusions

Thanks to the mobile applications, women can be more aware and better prepared for planning pregnancy and motherhood. Encouraging them to use the applications can bring many benefits in doctor-patient relationships, provided that the information contained therein is properly constructed.

Knowledge about gestational diabetes mellitus amongst polish women.

Author(s): Anna Kubińska, Weronika Madej Medical University of Warsaw, Poland Presenting author: Anna Kubińska Tutor(s): Iwona Szymusik

Introduction: Gestational diabetes mellitus (GDM) is a subtype of diabetes that occurs in pregnancy. The prevalence of GDM is increasing worldwide - it is estimated that 5-8% of pregnant women may develope GDM. The awareness of GDM in society is crucial for efficient prevention and treatment.

Aim: The aim of the study was to evaluate knowledge of polish women about GDM, including prophylaxis and treatment.

Materials and methods: The questionnaire survey of 1751 women, users of Facebook and Instagram. The questionnaire consisted of 4 parts: questions about prevention and treatment of GDM, questions about medical care for women with GDM in Poland, questions about individual risk factors and demographic part. Data was collected from November 2019 to February 2020.

Results: An average age of women was 30,6 years, 27,7% were pregnant, 60,2% had been pregnant in the past and 12,3% had never been pregnant. 99% had ever heard about GDM. 81,6% of interviewees pointed at least one complication in mother, 90,9% knew one or more complication in fetus, and 95% pointed at least one preventive action. 66.4% of women knew that glycaemia usually normalises postpartum, only 2% thought that GDM is also a definitive diagnosis of diabetes postpartum. 96,5% knew that women are tested for high blood sugar levels during pregnancy, 89.5% of women who had ever been pregnant were tested for fasting glucose level and 96,7% of them were also examined with OGTT (Oral Glucose Tolerance Test). Knowledge about treatment of GDM was insufficient - up to 95,2% of respondents pointed "healthy diet" and 68,5% chose "increased physical activity" as one of the primary methods of treatment, however up to 71% pointed insulin injections. The major sources of knowledge of GDM were the Internet (43,6%), a doctor (35,1%) and books (10,4%). The medical care for women with GDM was also evaluated - over 85% of women with GDM were informed about their condition by doctor - interestingly 65,1% of them were informed by diabetologist and 33.1% by gynaecologist. Only 48% of women with diagnosed GDM had glycaemia profiles analised postpartum and only 42,4% were tested with OGTT after puerperium.

Conclusions: Knowledge of prophylaxis and complications of GDM amongst women in Poland seems to be sufficient. There is a need to draw doctors' and patients' attention to the end of diagnostic process of GDM postpartum. Starting a specialised internet website for patients with GDM should be taken into consideration, as majority of women use the Internet to find more information about their condition.

Impact of hormonal contraception on uterine fibroids.

Author(s): Angelika Fornalczyk, Katarzyna Kwas Aleksandra Nowakowska Medical University of Lodz, Poland Presenting author: Angelika Fornalczyk Tutor(s): Maria Szubert, Magda Krzycka

Introduction.

It is statistically assumed that uterine fibroids develop in 25 - 40 % of women of childbearing age, however, among the available data there are large discrepancies resulting from population and socioeconomic differences. The pathogenesis of fibroids is not entirely clear, but it has been proven that high estrogen levels contribute to their formation. Research in the last 20 years also indicates the important role of progesterone in the formation and development of fibroids.

Aim of the study

The aim of the study was to assess the potential connection between use of oral contraceptives and the occurrence of uterine fibroids in women of childbearing age.

Methods:

The research was prospective, survey, case-control study. Data was collected from Caucasian female patients aged 17 to 51 (mean age 30) using questionnaire with questions concerning the onset, duration and form of hormonal contraception as well as medical and obstetrical history. The study group included females who take hormonal contraception = 164 patients. Control group included patients not using hormonal contraception = 52 patients. Patients after the menopause (7 patients) have been excluded. Statistical analysis was performed.

Results:

In study group 164 patients using hormonal contraception, 37.80% of them were diagnosed with uterine fibroids, whereas among patient not-using hormonal contraception, uterine fibroids were diagnosed in 59.62% patients. Most common hormonal contraception were two-component hormonal tablets used by 93.3%. It was stated that taking contraceptives was uterine fibroids defense factor (OR=0.41, p=0.0065). 58.5% of patients in study group were pregnant in the past and 60.42% were diagnosed with uterine fibroids (OR=4.40, p < 0.000001).

Conclusion:

Contraception was found to be a protective factor for uterine fibroids among the women surveyed. The presented data confirm theory about the hormonal dependence on uterine fibroids.

Examination of phagocyte function of peripheral leukocytes by plasma experiment in endometriosis before and after surgery

Author(s): Luca Lukács, Anna Rebeka Kovács MD László Pál MD, Ágnes Kövér MD University of Debrecen, Hungary Presenting author: Luca Lukács Tutor(s): Rudolf Lampe

Introduction: Endometriosis is a chronic systemic disease, influence negatively the quality of life of affected women and responsible for a remarkable number of infertility and chronic pelvic pain.

Pathophysiology of the disease is still enigmatic, but insufficient immune surveillance may play a significant role in it.

Aim of the study: Our purpose was to examine phagocyte function of neutrophil granulocytes and monocytes separated from patients with endometriosis before and after surgery, incubated in heat inactivated (HI) and non-inactivated (NI) plasma from different blood samples.

Material and methods: We isolated neutrophil granulocytes, monocytes, plasma from 8 women with endometriosis before surgery, after surgery and from 16 healthy women. These cells were incubated in HI and NI plasma, their phagocytic index (PI) were measured by the opsonized fluorescein isothio-cyanate-labeled zymosan A particles, as a target of phagocytosis under fluorescence microscope. For statistic evaluation repeated measures ANOVA and paired T-test were used.

Results: PIs of granulocytes and monocytes, isolated from patients with endometriosis, significantly decreased after incubation in their own plasma compared to incubation in healthy women's plasma. Values of these cells in their plasma separated postoperatively from women with endometriosis showed significant improvement and were equal to the results of incubation in healthy women's plasma. However PIs of cells, derivated from healthy women, were incubated in preoperatively isolated plasma from women with endometriosis showed significant reduction. Between incubation in HI and NI plasma no difference were detected.

Conclusions: Based on our results we assume that endometrial lesions and/or their microenvironment may produce factors, located in peripheral plasma of women with endometriosis, depressing phagocytic function of peripheral leukocytes. They may play a role in the deficient clearance of ectopic endometrial tissue. We assume phagocytic function returns to normal after removal of lesions. Regarding results of inactivation by heat we hypothesize these immunosuppressant factors are heat resistant.

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The association between gestational weight gain and birth weight

Author(s): Lelde Gaspersone Rīga Stradiņš University, Latvia Presenting author: Lelde Gaspersone Tutor(s): Laila Meija

Introduction. Weight gain during pregnancy is an important indicator of maternal and fetal nutrition during pregnancy. In order for the mother and the baby to have proper nutrition, the mother has to have a healthy weight gain estimated by her prepregnancy body mass index. Gaining either too little or too much weight in pregnancy can have serious health complications for the mother and may permanently affect the way balance of metabolism is managed in the offspring causing long-term effects on the child 's growth and weight

Aim of the study. The aim of this study was to investigate the association between gestational weight gain and birth weight.

Materials and methods. The study including 206 women took place in maternity departments in Latvia during the period of 2017.-2019. Participants aged 20-35 years with singleton and full term pregnancies were selected and interviewed after giving birth. Infant birth weight and pregnancy weight gain data were obtained from hospital records and compared between the different pregnancy weight gain groups. All participants provided written informed consent. Data were analysed using SPSS and MS Excel.

Results. 206 women, aged 20-35 (mean 27.64 SD=3.83) were analysed and grouped according to their weight gain rating. 17.5% (n=36) gained less than the recommended weight, 47.1% (n=97) gained the recommended amount of weight and 35.4% gained more than the recommended weight.

Birth weight cases >4000g were observed in 27.4% (n=20) of the woman from higher than recommended weight gain group, making it the weight gain group with most cases of newborns weighing more than 4000g.

Low birth weight (1500 - 2500g) was observed in 5.6% (n=2) of the women with lower than recommended weight gain, in normal and higher weight gain groups there were no cases of low birth weight (p<0.05).

Conclusion. Variations from recommended weight gain, are proven to be associated with variations in birth weight, where excessive weight gain is more likely to lead to fetal macrosomia and lower than recommended weight gain is more likely to lead to low birth weight.

Maintaining fertility among women before planned oncological treatment with particular emphasis on gynecological tumors

Author(s): Monika Sabatowska, Patrycja Wiśniewska Weronika Witana Medical University of Lodz, Poland Presenting author: Monika Sabatowska Tutor(s): Maria Szubert

Introduction

The WW domain-containing oxidoreductase (WWOX) gene locus is positioned on chromosome 16 in a common fragile site FRA16D (16q23.1-q23.2) and is unclassifiable as its action is not restricted to direct control of the cell cycle or genome integrity, but exerts a more global impact on cell function. Despite the knowledge about the WWOX gene role in many cancers, data on brain tumors are still limited and mainly concern glioblastoma multiforme (GBM). WWOX genomic alternations and expression changes in GBM are around 20%.

Aim of the study

The purpose of research was to broaden the current state of knowledge about the role of the WWOX gene in GBM via performing both biological assays and in silico analyzes.

Material and Methods

To conduct in vitro assays, firstly the transduction with lentiviral system was performed on glioblastoma multiforme cells (DBTRG-05MG) to obtain cell models with various level of WWOX. Subsequently, properties such as clonogenicity, 3D growth, MMPs activity or migration potential were evaluated. The in silico transcriptomic analyzes of GBM samples were prepared on data obtained from The Cancer Genome Atlas (TCGA) with the usage of the GenePattern repository (Gene Set Enrichment Analysis module) and NETwork-based Gene Enrichment (NET-GE).

Results

In vitro tests revealed that, despite increased clonogenicity in DBTRG-05MG cells with high WWOX gene expression and the enhanced ability to grow in suspension, WWOX overexpressing cells demonstrated lower capacity for invasive migration in comparison to low WWOX, which may be associated with intensified adhesion. As indicated by Western Blot analyzes, WWOX also regulates the expression of other proteins such as ATP6V1A, GFAP and LAMP1 involved in the processes of programmed cell death, maintenance of normal astrocyte structure or cytoskeleton modulations. In bioinformatic analyzes, patients were divided into phenotype with low and high WWOX gene expression, then a functional enrichment analysis was conducted. Gene ontology gene sets connected with cilium parts prevailed in patients with "WWOX high" phenotype, therefore one of them with 372 genes was chosen to further investigations. Using NET-GE for enrichment analysis of the molecular mechanisms and function, the highest fold changes had genes such like DYNLRB2, DNAI1, KNCN or MAPK15 involved in processes like cell surface structure adhesion, migration, and organization.

Conclusions

In summary, WWOX gene expression is associated with the fundamental biological processes of glioblastoma multiforme cells, and promising preliminary bioinformatic analyzes regarding WWOX gene participation in development and course of glioblastoma multiforme render the further research reasonable.

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HPV- A drop of knowledge in an ocean of unknown. What we know is a drop, what we don't know is an ocean. I. Newton

Author(s): Katarzyna Gil, Anna Pawlikowska Ewa Szuster Wrocław Medical University, Poland Presenting author: Katarzyna Gil Tutor(s): Lidia Hirnle

INTRODUCTION:

Cervical cancer is the 2nd most common cause of female-specific malignant cancer worldwide. Every year about 3000 polish women are diagnosed with cervical cancer, and 50% of them die because of it. However, there are currently three effective vaccines recommended for all boys and girls aged 9-18, but also adults. The aim of the HPV-vaccine is to provide a protection against HPV infections which can lead to f.e genital warts of cervical cancer.

AIM OF THE STUDY:

Getting the information whether parents' knowledge about HPV infections and HPV vaccine is sufficient. METHODS AND MATERIAL:

The study population included 331 parents. The anonymous surveys were distributed during parents' meetings at two primary schools. At the end of the survey there was a note with the most important information about HPV infections and vaccines.

RESULTS:

The main source of knowledge about the HPV vaccines are media. 16% of participants know, that the vaccines are also recommended for boys, and know the price of the vaccine. 55% of participants correctly indicated the recommended age of vaccination. In 87,5% of cases a physician never started a conversation with a parent about the HPV vaccine. 92% of participants does not know that HPV can be the cause of cancers other than reproductive system cancers. As the most effective ways of prevention, parents pointed out the vaccination and barrier contraceptive methods.

CONCLUSIONS:

Parents do not have a sufficient knowledge about HPV vaccinations and infection.

False information and myths are still a significant problem.

The information about the price of the vaccination and it's recommendations regarding boys and older women should be spread.

The great role of a physician in parents' education about the HPV vaccinations should be pointed out.

Experience of Polish Women to Common Vaginal Infections

Author(s): Anna Lipka
Poznan University of Medical Sciences, Poland
Presenting author: Anna Lipka
Tutor(s): Agata Szpera-Goździewicz

Introduction: . Vaginal symptoms are one of the leading causes for women to seek advice from obstertricians/gynaecologists. Basic knowledge regarding most common vaginal infections allows differentiation between vulvovaginal candidiasis (VVC) and bacterial vaginosis (BV), which leads to correct treatment.

Aim of study: To determine women's experience and knowledge of the 2 most common non-sexually transmitted vaginal infections - VVC and BV.

Materials and methods: An online survey

was conducted on 429 women aged 16 to 64 years to determine the incidence and awareness of VVC and BV in Poland. Multiple-choice questions about experience and attitudes to infections enabled identification of the most believed factors. Data were summarized using descriptive statistics.

Results: Majority of the women who took part were aware of both VVC (96,3%) and BV (89%) infection. 50,8 % reported having had VVC, whereas only 27,7% thought they had experienced BV. There was a significant confusion between symptoms exclusively related to each condition, alongside with no recognition of other important signs. Women thought that both infections were mainly caused by poor hygiene, sexual contact, ill health and antibiotic use. Over 95% preferred to seek help from gynaecologist.

Rates of reported examination and testing by health provider

Conclusions: Women seem very aware and knowledgeable about VVC, although it does not result in self-treatment with available OTC drugs. Even though awareness of BV is high, self-reported incidence is much lower than prevalence rates, suggesting misdiagnosis. Increased education of these 2 conditions is needed to ensure correct action leading to diagnosis with appropriate treatment.

"The Polish women's experience and level of knowledge about fertility and its disorders"

Author(s): Weronika Knap, Magdalena Pawłowska Medical University of Warsaw, Poland Presenting author: Weronika Knap Tutor(s): Iwona Szymusik

Introduction: According to World Health Organization infertility is defined as the failure to conceive within 12 months of regular unprotected sexual intercourse (2-4 times a week). This problem, recognized by WHO as a social disease, affects approximately 10-15% of couples in Poland.

Aim of the study: To assess the experience and knowledge of Polish women, up to the age of 50, about fertility and its disorders.

Material and methods: A questionnaire consisting of 44 questions, divided into 6 sections concerning demographics, personal health data, respondents' knowledge about menstrual cycle, infertility and its diagnosis was created. The questionnaire was available in social media from January till February 2020. Statistical analysis was performed with the use of Statistica.

Results: 3321 correctly filled out questionnaires were obtained, including 1127 filled out by women that neither had been nor were pregnant at the time of survey. The majority of responses were obtained from women aged 26-30, with higher education. The most common source of information about infertility, marked by 77.6% of women, is the Internet, while only 42.5% got the information from their doctors.

As many as 65.2% of respondents do not know which days in the cycle are fertile days. 42.6% of respondents do not know that ovulation occurs about 14 days before the onset of the next period, 40.3% of them are not aware that fertilization takes place in the fallopian tubes. The symptom most commonly associated with ovulation is mucus resembling raw egg white.

Women, who have been and/or are currently pregnant, more often answered correctly than those who had never been pregnant. Among them, 80.2% are aware that ovarian follicles' number decreases through life, whereas among the second group of respondents -75.7% (p=0.002). 35.4% versus 33.8% (p<0.001) can define when fertile days occur, 59.7% versus 52.8% (p<0.001) know when ovulation occurs. 60.3% of women who have already been pregnant properly indicated 1 year as the definition of infertility, in comparison to 55.8% of respondents who have never been pregnant (p<0.001).

Most frequently chosen reasons of infertility were: in women - fallopian tubes' obstruction and in men - semen's quality and production disorders. 61.2% of women incorrectly marked hormonal contraception as a risk factor of infertility, including 56.7% among the respondents, who have ever used hormonal contraception and 67.6% among who had never practised it (p<0.001).

Conclusions: The study has shown that knowledge about fertility and its disorders is not satisfying among Polish women. Due to the growing problem of infertility additional education related to that problem is required. It should mostly concern basics of reproductive physiology and menstrual cycle.

Comparison of efficacy and incidence of side effects after labor induction with PGE1 and PGE2 for nullipara women: international experience.

Author(s): Irīna Morozova Riga Stradiņs university, Latvia Presenting author: Irīna Morozova Tutor(s): Karlina Elksne, Martin Stepan

Introduction: Labor induction (LI) is a widely used necessary procedure, being performed to benefit the health of both mothers and children. Nulliparous women with an unfavorable cervix, requiring LI, are believed to be at higher risk of acute cesarean section (CS) as well as several researches show differences in incidence of perineal rupture, nausea and other adverse effects, comparing to non-inducted deliveries. But does prostaglandin (PGE) type, used for LI influence efficacy and incidence of complications?

Aim of the study: To compare efficacy and incidence of complications after LI induction with PGE 1 and PGE 2 methods following the regimens of 3 different hospitals.

Material and methods: A cross-sectional international study, conducted in Riga Maternity hospital (RMh), Paul Stradins university hospital (PSUh) and University hospital Hradec Kralove (UhHK), included 121 women after LI. Subjective comparison was obtained from self-filled questionnaires, while objective data included LI protocols. Data was processed with Microsoft Excel and IBM SPSS Statistics 22.0.

Results: PGE 1 (oral) was used in both RMh and PSUh in 100% (n=82), median(IQR) dosages 137(150)mcg. PGE 2 (cervical) was used in 100% (n=39) in UhKH, median dosage 1300(0.0075) mcg for LI with/without previous PGE 2 (3 mg) or Foley catheter for labor preinduction (LP), p=0.720. No statistically significant differences were found between incidence of acute CS (18.2%, n=22), a mniotomy rate (51.7%, n=61), o xytocin use rates (47.5%, n=56), e pisiotomy rates (46.5%, n=47), newborn hospitalization rate (7.4%, n=9), incidence of nausea as a side effect (18.2%, n=22), incidence of vomiting as a side effect (8.3%, n=10), duration of the 1 st period of labor (345(275) min), the 2 nd period of labor (63(60) min), the 3 d period of labor (10(5) min), Apgar score at the 1 st minute (8 (1)), Apgar score at the 5 th minute (9(1)).

Statistically significant difference was found between:

Time before onset of the 1 st period of labor (9.5(14.4) hours after PGE1 and 15(4.8) hours after PGE2); Total blood loss (300(100) ml for PGE1 and 200(150)ml for PGE2);

Incidence of back pain as a side effect (6.1%(n=5)) for PGE1 and 17.9%(n=7) for PGE2). Conclusions: PGE 1 may require longer period of time to develop regular uterine contractions and may be associated with bigger blood loss during delivery and higher incidence of perineal ruptures. However in case of LI using PGE 2, exists higher probability of developing back pain as a side effect. Further evaluation needed.

How to pregnancy? - study of Polish women knowledge and opinion about planning pregnancy

Author(s): KINGA WALSKA
Poznan University of Medical Sciences, Poland
Presenting author: Kinga Walska

Tutor(s): Katarzyna Kawka-Paciorkowska, Agata Szpera-Goździewicz

The pregnancy and child 's development are affected by mother 's health and lifestyle not only during pregnancy but also before conception. A proper lifestyle including regular physical activity, healthy diet, right amount of sleep hours and other environmental factors allows for the proper development of pregnancy and reduces the risk of obstetric and neonatological complications.

The research was aimed to examine approach of women to birth control, changes in physical activity and diet, the application of preventive vaccinations, changes in lifestyle hygiene (sleep, work, stimulants) before pregnancy and during potential pregnancy.

The research was carried out on a group of 157 women using a personalized survey consisting of 54 questions about demographic data, dietary, physical activity and professional activity changes as well as the attitude of the respondents towards vaccinations and dietary supplementation before planned pregnancy.

The vast majority of respondents (90.4%) admitted they had ever thought about the changes they would like to introduce before planned pregnancy. The issues most often thought about included diet (98.1%), physical activity (96.2%) and reduction of stress in personal life (68.8%). It was important for the respondents to introduce changes in their diet both before and during pregnancy . Most women (72%) planned to introduce supplementation into their diet - primarily folic acid (70.1%) and iron (52.2%). Iodine is taken into account by the vast minority (15.3%). The majority want to change their physical activity during pregnancy - especially the frequency of exercises.

The study showed that 82.1% of respondents do not see the need for any vaccination before pregnancy, and almost 30% are against any vaccination during pregnancy. Over half (58.8%) of respondents intend to stop smoking in the first trimester of pregnancy, and 45.7% declare they will stop drinking alcohol at that time. Most women (66%) declare their will to continue consumption of caffeine-containing beverages during pregnancy.

Conducted research shows that women 's awareness of many aspects affecting planning pregnancy is insufficient. Lack of knowledge about the recommended changes may result in the lack of introducing them before pregnancy. As shown above there is a need to educate women about recommended lifestyle changes before and during pregnancy. Popularization of knowledge in this field may result in decreasing the number of obstetric and neonatological complications.

Vaccination during pregnancy still controversial?

Author(s): Natalia Ostroga, Karina Sypek Karolina Pędrys, Agata Struziak Silesian Medical University in Katowice, Poland Presenting author: Natalia Ostroga Tutor(s): Mateusz Zamłyński

Introduction Passive immunization of pregnant women to protect the mother, foetus and new-born baby has become better understood, used more often over the last decade and is one of the means used to achieve the World Health Organization 2030 Sustainable Development Goals. Poland had recommended immunization with a tetanus, diphtheria, acellular pertussis vaccine for all pregnant women in the third trimester of pregnancy and influenza vaccine during any trimester of pregnancy before the start of the flu season. Aim of the study The aim of the study was to determine the existence of correlation between the knowledge of women about recommended vaccinations during pregnancy and the state of vaccination as well as attempting to indicate the factors that have a decisive influence on the decision to vaccinate during pregnancy. Materials/Methods An original online questionnaire, consisting of 30 open and closed single-choice and multiple-choice questions, was conducted. The opinion and knowledge about preventive vaccination was studied. The maximum number of points was 16. The collected data were analysed in Excel and Statistica. Results The study group of 979 women (18-45 years old) was divided as follows: 1) Group I - women who were pregnant in the years 2014-2019 (n=634) a) Group Ia - not vaccinated during pregnancy (n=479) b) Group Ib - vaccinated during pregnancy for influenza and/or pertussis (n=155) 2) Group II - women who were not pregnant in the years 2014-2019 (n=345) The median of group I results was significantly higher than the median of group II results (6 (2-8) vs 3 (2-6), p < ;0. 0000001). The median of group Ia results was significantly lower than the median of group Ib (4 (2-8) vs 11 (8-13), p < ; 0.01). The Internet was the main source of knowledge among the respondents who were aware of the recommendations on pregnant vaccinations (67%; 372 of 559). The opinion of the gynaecologist leading the pregnancy is the most important factor in making the decision to vaccinate (76%; 424 of 559). The desire to ensure the safety of the foetus and the new-born (95%; 147 out of 155) was the most important motivation for women deciding to be vaccinated during pregnancy. The concern about the safety of vaccines (35%; 168 out of 479) and the foetus (29%; 137 out of 479) was the reason for abandoning this procedure. Conclusions The knowledge of the surveyed women about vaccination during pregnancy is significantly higher among those who were pregnant in the years 2014-2019 and who were vaccinated against influenza and/or tetanus, diphtheria, pertussis during that period. Education on recommended vaccinations and vaccine safety can significantly increase the vaccination status of pregnant women. The role of health professionals as a reliable source of information remains irreplaceable.

Sonographic measurement of cervical length in the third trimester for predicting preterm birth: asymptomatic patients and patients with threatened preterm labor

Author(s): Irīna Morozova Riga Stradinš university, Latvia Presenting author: Irīna Morozova Tutor(s): Natalija Vedmedovska

Introduction. Tools, that could help to predict and diagnose preterm labor (PL) are of an outstanding importance and play a major role in decreasing incidence of the newborn mortality and further developmental disturbances. One of those tools is cervical length (CL) measurement - as a risk assessment method it used from 18 th to 24 th gestational week (GW) as a part of routine ultrasonography (USG), but as a PL diagnostic method - for the patients presenting with the PL threats. But, while the 2 nd trimester indicative CL cut-off values of 25 mm are well-known and widely used, maximally sensitive and specific CL cut-off value for threatened PL and beneficence of this tool for asymptomatic patients in the 3 d trimester remains unclear.

Aim of the study. To analyze CL, measured between 28 + 0th and 36 + 6th GW as a prognostic factor for PL in the presence of PL symptoms (contractions and lower abdominal pain) as well as expediency of the routine CL measurements in the 3 rd trimester for nulliparous patients .

Material and methods. A prospective study, conducted at the Riga Maternity Hospital, included 134 pregnant women, divided into 2 groups. SP group (n = 43) - patients with PL threat symptoms. AP group (n = 91) - patients, came for the routine 3 d trimester USG screening without symptoms of PL. Transvaginal USG was performed, measuring CL. Afterwards women were followed-up till the day of delivery. Data were processed with the IBM SPSS Statistics 22.0. The associations of the qualitative data (e.g. CL and PL) were verified by the Chi-square test or, if <100% of the expected value is ≥ 5 , by Fisher 's direct test. The strength of the association was determined by the Phi (varphi) value (0.1-0.3, 0.3-0.5 medium,> 0.5 - strong).

Results. 119 patients finished the research. The median \pm interquartile range (IQR) of CL was statistically significantly shorter in the SP group (31.2 \pm 4.6 mm), than in the AP group (36.5 \pm 6.1), p=0.01. The gestation time at birth was statistically significantly lower in the SP group (39.0 \pm 3.3 GN), than in the AP group (39.7 \pm 1.3 GN), p=0.04. The incidence of PL in the SP group was 20.6% (n=7), which is statistically significantly different from the AP group: 1.2% (n=1), p = 0.001. The association of SP group CL lengths <30 mm (n=10), <25 mm (n=7), <20 mm (n=5) with the PL was statistically significant (p=0.01, p=0.01, p=0.003, respectively), the strongest association was with CL<20 mm ($\ddot{\mathbf{I}} \bullet \mathbf{c} = 0.64$), comparing to $\ddot{\mathbf{I}} \bullet \mathbf{c} = 0.61$, $\ddot{\mathbf{I}} \bullet \mathbf{c} = 0.42$ for CL<25 mm and <30 mm. In the AP group for the only PL case, CL was >35 mm, so no association was found between PL and CL<30mm (12.6%, n=11), <25mm (2.3%, n=2), <20 mm (1.1%, n=1).

Conclusions. CL, measured for nulliparous patients between 29 th and 36 +6th GW, in the presence of PL symptoms could help to identify patients at the increased risk of PL. However, in asymptomatic patients routine CL measurement at that gestational time does not help to predict PL.

The impact of seasonal variability on assisted reproductive treatment success

Author(s): Adele Gudleviciute Vilnius University, Lithuania Presenting author: Adele Gudleviciute Tutor(s): Diana Ramasauskaite, Zivile Gudleviciene

INTRODUCTION

Few epidemiologic studies have demonstrated the impact of seasonal variability on natural pregnancy and birth rate. However, data regarding the seasonal variation during assisted reproductive treatment is controversial and several studies with conflicting results have been published.

AIM OF THE STUDY

To evaluate the impact of seasonal variation on assisted reproductive treatment outcome.

MATERIALS AND METHODS

A total of 959 IVF/ICSI cycles conducted in VUHSK between 2017 and 2019 were retrospectively analysed. The Study was approved by the Vilnius Regional Biomedical Research Ethics Committee (No. 2019/6-1151-640). The cycles were divided into four seasonal groups (Winter (December-February), Spring (March-May), Summer (June-August), and Autumn (September-November)) according to the day of oocyte pick-up. The numbers of

retrieved and fertilized oocytes, transferred embryos, fertilization rate and pregnancy rate were compared among seasonal groups. After that, in order to avoid bias in the fertilization rate, cycles using ICSI were excluded and the same parameters with IVF cycles only were analysed. Both IVF/ICSI and IVF-only groups were then compared. Analysis was performed with IBM SPSS Statistics version 26.

RESULTS

The mean age of all the patients was $34,13 \pm 4,05$ for women and $36,29 \pm 5,32$ for men and it did not differ among seasonal groups. The mean number of oocytes retrieved was highest in the spring (13.48 ± 14.32) and lowest in the summer (11.21 ± 7.25) but the difference among all seasonal groups was not statistically significant (NS) because p = 0.348. The mean number of fertilized oocytes was highest in the spring (8.96 ± 6.25) and lowest in the summer (7.63 ± 5.27) (NS, p = 0.168). The fertilization rate was lowest in the spring (66.60%) and highest in the autumn (68.76%) without statistical significance among all seasonal groups (p = 0.211). The percentage of couples who conceived was highest in the spring (54.65%) and lowest in the summer (44.72%) without statistical significance among all seasonal groups (p = 0.257). The odds were 1.49 times higher to conceive in spring compared to summer (95%) CI 1.01-2.21) and this result was statistically significant (p = 0.046). The calculations with only IVF cycles followed the same pattern except that the odds ratio results were not statistically significant and the fertilization rate was highest in the winter (73.36%).

CONCLUSIONS

Statistically significant higher odds (OR = 1.49) to conceive in spring compared to summer was found in IVF/ICSI group. However, the difference between all four seasons together was not significant. Other parameters did not significantly differ among seasonal groups.

The impact of anemia in pregnency on Apgar score in newborn

Author(s): Konrad Molisak, Aleksander Rycerz Mateusz Lec Uniwersytet Medyczny w Łodzi, Poland Presenting author: Aleksander Rycerz Tutor(s): Jacek Wilczyński, Anna Nowak Maria Szubert

The impact of anemia in pregnency on Apgar score in newborn

Summary

Aim of the study: The objective of the study was to determine the impact of anemia in pregnant woman in the perinatal period on the Apgar score of a newborn.

Material and methods:

The studying included 437 patients from Madurowicz Hospital Center who were hospitalizated from june to october 2019 who gave birth between 37 and 42 weeks of pregnancy. The results of hemoglobin level tests, which were performed on pregnant women immediately before the delivery and the Apgar assessment of a newborn at 1 and 5 minutes after birth, were analyzed.

Results: Anemia occurred in 86 patients hospitalized during the study period. No significant differences have been detected in Apgar scores between healthy and anemic patients. No correlation has been found between the child 's birth weight, delivery type and anemia in perinatal period. The average age of women with a hemoglobin concentration above 10 g / dl was 31.2 years, while women with a concentration below 10 g / dl - 27.6 years.

Conclusions: The Apgar score of a newborn at 1 and 5 minutes, birth weight and delivery type are not affected by anemia occurring immediately before delivery. Younger women are more likely to suffer from severe anemia than older women.

Key words: Anemia in pregnency / Apgar score / newborn

The impact of vaginal microflora on duration of pregnancy and neonatal well-being

Author(s): Monika Weteska, Joanna Zgliczyńska Medical University of Łódź, Poland Presenting author: Monika Weteska Tutor(s): Maria Szubert, Olga Olszak Jacek Wilczyński

INTRODUCTION

Vaginal flora plays an important role throughout the course of pregnancy as well as during the delivery. It may also affect neonatal health and well-being. However, data on specific commensal strains of bacteria and their relationship to neonatal complications is still inconsistent.

AIM OF THE STUDY

The aim of the study was to assess the influence of vaginal colonization with pathogenic bacteria and fungi on the physiological parameters of newborns, duration of pregnancy and length of hospitalisation of neonates.

MATERIALS AND METHODS

Retrospective data of 962 patients who delivered between 01.2019 and 06.2019 in the Clinic of Perinatology of Medical University of Lodz was analysed. The study group consisted of 404 patients with non-physiological vaginal flora of which samples were obtained while 417 patients with physiological flora constituted the control group. 141 patients (14,95%) were excluded from the study due to incomplete data.

RESULTS:

Patients with non-physiological vaginal flora gave birth prematurely (10,29%) more often than patients with physiological flora (5,57%), p=0,00951. Newborns of mothers who carried pathogenic bacteria obtained an APGAR score under 8 more frequently (5,5% vs 2,8%, p=0,04315). Neonate hypertrophy occurred more often in the study group (7,9% vs 4,28%, p=0,021640). Hospitalisation period was longer for children of carrier mothers (mean of 6,30 days) than those of non-carrier mothers (mean of 5,05 days, p=0,021640). Newborns of carrier mothers developed perinatal infections more often (24,16% vs 15,91%, p=0,00225). 4 infants died in the study group whereas no deaths were recorded in the control group. The most prevalent pathogens were: Streptococcus agalactiae (GBS) 57,42%, Candida spp. 40%, Streptococcus aureus 6,7%, Klebsiella spp. 9,57%, Proteus spp. 2,87%. Signs of infection were more frequently recorded in newborns of mothers infected with Klebsiella spp. (35,9% vs. 21,07%, p=0,01119). Premature birth was more prevalent in GBS carriers (11,67% vs. 8,4%, p=0,03740).

CONCLUSIONS

The occurrence of pathogenic microbiota in the genital tract is a common phenomenon among pregnant females. Non-physiological vaginal flora in the 3rd trimester of gestation significantly influences physiological parameters of newborns, their survival rate and length of hospitalisation. Implementation of screening tests and prevention of vaginal infections as well as administering probiotic supplements could reduce the rate of post-delivery complications in newborns. Further studies concerning intra vaginal treatment of asymptomatic carriers of non-physiological flora should be carried out.

Automatic devices versus manual suturing of membranes in open fetal surgery - the perinatal outcomes.

Author(s): Karina Sypek, Martyna Gawęda Anastazja Pandel, Paulina Kurdyś Medical Univerity of Silesia, Poland Presenting author: Karina Sypek Tutor(s): Mateusz Zamłyński

Introduction

Myelomeningocele (MMC) is a severe, congenital defect of central nervous system occurring between 21-28 day of gestation, due to abnormal neurulation process. MMC is associated with Chiari malformation II (CM II), hydrocephalus (HC), bowel and bladder control problems, lower limbs motor dysfunction. Intrauterine myelomeningocele repair (IUMR) has a proven neuro-protective effect, restoring circulation of cerebrospinal fluid. There are two surgical techniques of membranes closure - hand suturing and stapling.

Aim

The aim of our study was to analyze the effectiveness of IUMR and compare results of patients treated with both techniques.

Materials and methods

136 patients after IUMR, with the same tocolytic protocol were qualified for the study. 30 surgeries were performed with stapler (group 1 SD-1) and 49 manually (group 2 SD-2). The stapler method was used from 2012 to 2015 and manual suturing method is used since 2015. Chi-squared test was used to determine whether there are any statistically significant differences between these groups.

Results

Only 15% of patients from SD-2 presented iatrogenic preterm premature rupture of membranes (iPPROM) in opposite to SD-1 where iPPROM occurred in more than half cases - 54% (p= 0,00043). 35% of patients developed oligohydramnios in SD-2 vs. 15% in SD-1 (p=0,05). The average gestational age at delivery in SD-2 was 34.4 ± 3.4 vs. 32.4 ± 3.7 SD-1. Moreover, in SD-2 we did not observe any preterm labour below 30 hbd vs. 15% in SD-1 (p= 0,00567). Average birth weight was 2148 ± 827 in SD-2 vs. SD-1 1848.07 ± 760.5 . Average Apgar score in first and fifth minute were 7.4/8.0 in SD-2 vs. 6.61/7.39 in SD-1.

Conclusions

Manual IUMR compared to the stapler method is characterized by a significant improvement of the level of perioperative safety for pregnant women, fetuses and newborns. Similarly, perinatal results also indicate a reduction of iPPROM, oligohydramnios and premature delivery. Therefore, overall negative neonatal outcomes due to prematurity have been decreased.

Fetal electrocardiography ST - segment analysis - its impact on perinatal outcome in Riga Maternity Hospital

Author(s): Beāte Sārta Rīga Stradiņš University, Latvia Presenting author: Beāte Sārta Tutor(s): Anna Miskova

Introduction. ST - segment analysis (STAN) is used as an additional method for fetal intrapartum monitoring, and in the latest studies has shown a significant improvement in perinatal outcomes as well as a reduction of operative labour frequency.

Aim. To compare perinatal and obstetric outcomes in patients with and without STAN monitoring in Riga Maternity Hospital.

Material and methods. This was a retrospective case control study of 1808 patients. Patients included had singleton pregnancies with cephalic presentation and no contraindications for STAN use. The patients were divided into case group (where fetal monitoring was done with both STAN and cardiotocography (CTG)) and control group (where only CTG was used). The compared outcomes were neonatal metabolic acidosis, newborn being transferred to intensive care unit (ICU), hypoxic - ischemic encephalopathy (HIE), Apgar <7 in 5 th minute, vacuum extractions and acute caesarean sections. Variables were compared in IBM SPSS.

Results. When using STAN, a significant reduction in metabolic acidosis was observed - 3 cases in the control group and 0 in the case group (p=0.017). There were significant differences in operative delivery rates - in the control group operative delivery rate was 14.3%, but in the case group 46.5% (p=0.01). Operative delivery rate for fetal distress was 52% in the control group and 83.3% in the case group (p=0.003). There were no differences between both groups regarding ICU transfers, HIE or Apgar scores.

Conclusions. We found STAN use to be associated with lower metabolic acidosis rates and a higher frequency of operative delivery.

Internal Medicine



Coordinators: Miłosz Caban, Angelika Fornalczyk,

Jury:

prof. dr hab. n. med. Dariusz Moczulski, dr hab. n. med. prof. nadzw. Renata Talar-Wojnarowska, dr hab. n. med. prof. nadzw. Maciej Chałubiński, dr hab. n. med. Adam Białas, dr n. med. Joanna Miłkowska-Dymanowska, lek. Adam Fabisiak,

Relationship between subunits of HIF-1 proteins and circadian clock proteins in obstructive sleep apnea patients

Author(s): Szymon Turkiewicz Medical University of Lodz, Poland Presenting author: Szymon Turkiewicz Tutor(s): Agata Gabryelska, Marcin Sochal Piotr Białasiewicz

INTRODUCTION:

Obstructive sleep apnea (OSA) is a chronic condition that is characterized by intermittent hypoxia. Key regulator of oxygen metabolism is hypoxia inducible factor 1 (HIF-1), which consist of oxygen sensitive subunit alpha (HIF-1 alpha) and continuously produced subunit beta (HIF-1 beta). Circadian clock is composed of set of gens, which function as activators - CLOCK and BMAL1 - or repressors - PER1 and CRY 1. Under hypoxia, HIF-1 alpha heterodimerizes with HIF-1 beta and binds to E-box-like hypoxia response elements (HRE) in the promoter regions of hypoxia-induced genes, which include circadian clock genes.

AIM OF THE STUDY:

The aim of the study was to assess the relationship between HIF-1 alpha, HIF-1 beta, BMAL1, CLOCK, PER1, CRY1 and polysomnography (PSG) variables in healthy individuals and severe OSA patients.

MATERIALS AND METHODS:

The study included 20 individuals, who underwent PSG and based on apnea-hypopnea index (AHI) were divided into severe OSA group (n=10;AHI30;90% male) and healthy control (n=10;AHI<5;70% male). All participants had their peripheral blood collected in the evening (9:00-10:00 pm) before and in the morning (6:00-7:00 am) after the PSG. HIF-1, HIF-1, BMAL1, CLOCK, PER1 and CRY1 protein concertation measurements were performed using ELISA.

RESULTS:

Significant difference was observed in the following protein measurements between study groups: evening and morning HIF-1 (p=0.020 and p=0.043, respectively), evening HIF-1 (p=0.047), evening and morning CLOCK (p=0.037 and p=0.019, respectively) and morning BMAL1 (p=0.016), evening and morning PER1 (p=0.004 and p=0.029, respectively) and evening CRY1 (p=0.035). No differences were observed between morning and evening protein levels in both groups. Evening HIF-1 correlated with evening CLOCK and morning BMAL1 (respectively: p=0.21, R=0.511 and p=0.006, R=0.594), while morning HIF-1 with evening BMAL1 (p=0.35, R=474). Furthermore, evening and morning HIF-1 correlated with evening BMAL1 (respectively: p=0.010, R=0.564 and p=0.001, R=0.689). Additionally, morning CLOCK and BMAL1 correlated with AHI (p=0.022, R=0.510 and p=0.010, R=0.560) and desaturation index (p=0.209, R=0.487 and p=0.009, R=0.570). Evening HIF-1 correlated with evening and morning PER1 (R=0.618, p=0.004 and R=0.514, p=0.020, respectively) as well as morning CRY1 (R=0.468 p=0.038), while morning HIF-1 with evening and morning PER1 (R=0.629, p=0.003 and R=0.471, p=0.036, respectively).

CONCLUSION:

There is significant correlation between both subunits of HIF-1 protein and CLOCK, BMAL1, which further correlate with increased disease severity and desaturation index. There are significant differences in PER1 and CRY2 concentration in OSA and control group. This suggests OSA patients are in risk of circadian clock disruption due to present hypoxia.

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Difference in contents of micro- and macroelements in tumorous and health tissues in patients with colorectal carcinoma

Author(s): Jelena Zekić, Katarina Ivanović Silvio De Luka University of Belgrade, Serbia Presenting author: Jelena Zekić Tutor(s): Silvio De Luka

Introduction: Colorectal carcinoma is present day non-rare disease and one of the common causes of mortality in world. The incidence of this cancer in men is 88.2, while in women is 55.0 per 100 000 inhabitants. The etiopathogenesis of colorectal carcinoma is still incompletely clarified, but it is considered to be due to complex interactions of genetic and environmental factors. An important role in development of carcinoma play

factors such as lifestyle, nutrition, inflammatory bowel disease.

Aim: The aim of research was to investigate the content of trace elements in tumorous and healthy tissue. Material and methods: This cross sectional study covered 60 male examinees with confirmed diagnosis of colorectal cancer, cured in KBC Zvezdara. During the colonoscopy, from each subject, by multiple biopsies, were taken two samples, a tumor-modified and healthy colon tissue. In each taken sample, micro and macroelements content was determined spectrophotometrically.

Results: Analysis of the obtained results showed that the concentrations of Mg, K, Cu, Se and Ca (p=0.000, p=0.000, p=0.011, p=0.000) are statistically significantly higher in tumor tissue, while concentrations of Na, Zn, and Cd are statistically significantly lower in tumor tissue then in healthy (p = 0.000, p= 0.001, p=0.000). For Mn and Fe concentrations, we did not find statistically significance difference (p=0.821, p=0.546).

Conclusion: In our study, we found the difference in concentrations of Na, Mg, K, Cu, Zn, Se, Ca and Cd between colorectal carcinoma and healthy tissue.

Keywords: colorectal carcinoma, trace elements

Venom immunotherapy efficacy after sting challenge testing

Author(s): Eglė Lukošiūtė Vilnius University, Lithuania Presenting author: Eglė Lukošiūtė Tutor(s): Kestutis Cerniauskas

Introduction

Hymenoptera venom allergy (HVA) is associated with significant morbidity, deterioration in health-related quality of life and risk of fatal systemic reactions. Venom immunotherapy (VIT) is the most effective treatment available for HVA patients, as stated by The European Academy of Allergy and Clinical Immunology guidelines.

Aim of the study

To evaluate the efficacy of VIT for patients who had diagnostic sting challenge.

Material and methods

Medical history data from adults who had VIT and subsequent diagnostic sting challenge in Vilnius University hospital Santaros clinics Pulmonology and Allergology center from year 2014 through 2019 were retrospectively analyzed. For the study we included the following information: insects responsible for the allergy and used in the sting challenge, IgE antibody concentrations before VIT, the duration of treatment, co-allergies and the results of the sting challenge. For basic statistical analysis SPSS 23.0 software was used.

Results

A total of 27 patients (16 females and 11 males) were included in the study. The patients' mean age was 45 years +-13.5 years, the youngest and the oldest being 19 and 75 respectively. 14 patients had allergy for one insect (5 for bees, 7 for wasps and 2 - hornets), while 10 had for two, and 3 were hypersensitive to all three Hymenopterans. In total, most of the subjects were allergic to either honeybees (63%) and/or common wasps (67%). Only one patient had IgE antibodies rise up to class 6 (100 IU/mL) for common wasp venom before VIT. The most frequent IgE antibody increase was to class 2 (8, 10 and 4 patients for honeybees, common wasps and hornets respectively). The duration of treatment before the sting challenge was from 4 to 33 months with mean 13,6 months +-7.7 months. Most patients (23/27, 85,2%) reported no reactions (7/23, 25,9%) or only mild local reactions (15/23, 59,3%) to sting challenge. Diffuse urticaria was seen for one patient while three patients (two with mastocytosis) developed anaphylaxis, two of them caused by honeybee sting.

Conclusions

Venom immunotherapy is effective for the prevention of serious allergic reactions to Hymenoptera stings. Treatment failure is observed more often in patients receiving honeybee VIT than in those receiving wasp VIT. Mastocytosis is associated with a higher rate of severe side effects during VIT.

Etiology of the urinary tract infections and bacterial susceptibility to antibiotics in kidney recipients in the long term after transplantation

Author(s): Ewa Jurałowicz Medical University of Lodz, Poland Presenting author: Ewa Jurałowicz Tutor(s): Ilona Kurnatowska

Introduction

Kidney transplantation (KTx) is the preferred method of treatment in patients with end-stage renal disease. The most frequent complications after KTx are infections, such as urinary tract infections (UTI) that may require antibiotic therapy.

Aim of the study

The aim of the study was to assess the etiology of UTIs in recipients in the long term after KTx and to estimate antibiotic susceptibility of microorganisms.

Materials and methods

All microbiological urine cultures (UC) made from 2015 to 2019 in KTx recipients presenting with clinical symptoms of UTI, treated in one transplant outpatient department, were collected. All types of bacteria were identified, the most frequently occurring species were analyzed and antibiotic susceptibility of microorganisms was estimated.

Results

296 UCs from 142 patients (99F, 43M) were analyzed. The patient mean age was 56.9 ± 16.5 years (F: 59.5 \pm 16.4, M: 50.9 \pm 15.4) and they were approximately 111 \pm 69 months after KTx. 86 patients suffered from incidental infection, while 56 were diagnosed with recurrent UTI (mean amount of UCs per patient: 3.75 ± 3.65). 195 UCs were made from female patients, mean amount of UCs for one female: 1.97 ± 2.41 . 101 UCs were from males, mean amount of UCs for one male: 2.35 ± 3.15 . 31 bacterial species were identified: 16 Gram-positive, 15 Gram-negative. The analyzed UCs contained 354 bacterial samples: 235 Gram-negative and 119 Gram-positive. The most frequently occurring microorganisms responsible for UTIs were: Escherichia coli (36.44%), Klebsiella pneumoniae (15.82%) and Enterococcus faecalis (10.73%). E. coli ESBL+ (extended-spectrum beta-lactamases) constituted 17.8% of all cases of the given species, whereas K. pneumoniae ESBL+ was responsible for 85.7%. E. coli showed 100% susceptibility to amikacin and carbapenems: imipenem and meropenem, 97% to gentamicin, 91% to reference, 89% to piperacilin with tazobactam while among the oral antibiotics its highest sensitivity was to: fosfomycin (97%) and nitrofurantoin (83%). E. coli was resistant to amoxicillin with clavulanic acid in 36%, to fluoroquinolones and trimethoprim/sulfamethoxazole in approximately 50% of cases. K. pneumoniae was sensitive to carbapenems in 100%, to amikacin in 87% and resistant in 89% to ciprofloxacine, in 79% to trimethoprim/sulfamethoxazole and in 46% to gentamicin. K. pneumoniae was almost insensitive to the oral preparations: fosfomycin (18% susceptibility), cefuroxime (13%) or nitrofurantoin (0%).

Conclusions

The most often occurring bacteria causing UTI in recipients in the long term after KTx is E. coli that presents similar antibiotic susceptibility as in the general population, while the second most common microorganism, K. pneumoniae, shows significant resistance to antibiotics recommended as a first-line treatment.

Analysis of traveling-realted factors among patients with dengue fever and malaria returning from tropical regions

Author(s): Magdalena Radziszewska Medical University of Warsaw, Poland Presenting author: Magdalena Radziszewska Tutor(s): Tomasz Mikuła

Introduction:

Nowadays travelling to tropical destinations became affordable, so there is an increase in occurrence of tropical diseases in tourists. Malaria is caused by protozoa of the Plasmodium group and is characterized by hectic fever. In dengue fever, caused by dengue virus, there are fever, muscle/joint pains and characteristic skin rash. Both diseases are mosquito-borne and have usual onset about 2 weeks after exposure. For people traveling to tropical countries it is often recommended to get vaccinated and take antimalarial drugs in endemic areas.

Aim of the study:

The aim of the study was to analyze factors related to traveling to tropical regions among patients, who returned with either dengue fever or malaria.

Material and methods:

The study took into account 22 patients (6 men, 16 women) admitted to the Department of Infectious and Tropical Diseases and Hepatology, who were diagnosed with either malaria (3 patients) or dengue fever (19 patients) between the years 2011-2019. Patients were divided into 2 groups-of tourist traveling via travel agencies (12 patients) and independent travelers (10 patients). Various factors were analyzed among these groups.

Results:

Travelling destinations included over 15 countries mainly in Asia, with most (6) cases from Thailand. For tourists typical stay was 2 weeks and for independent travelers about a month.

The mean age of travel agency's tourists was 35 years. All 12 patients were diagnosed with dengue fever. At admission, patients presented high fever (100%), muscle/joint pains (66.7%), tiredness (50%), vomiting (41.7%), skin rash (41.7%), headache (25%). Up to 66.7% of patients presented symptoms after the return. Half of patients had recommended vaccinations and only one patient was taking antimalarial drug.

The mean age of independent travelers was 40 years. Out of 10 patients 7 were diagnosed with dengue fever and 3 with malaria. At admission, patients presented high fever (100%), headache (40%), muscle/joint pains (40%), skin rash (40%), tiredness (20%) and vomiting (20%). In half of patients symptoms occurred after the return. Up to 70% of patients had recommended vaccinations and 30% patients were taking antimalarial drugs.

Conclusion

With increasing number of travels to tropical destinations, it is important to suspect tropical diseases in patients presenting high fever and flu-like symptoms after return. Still, a small number of travelers prepare themselves medically before exotic trips, especially clients of travel agencies, so It is important to raise awareness about proper preparation.

An enhanced heat shock protein-90 response in patients with arterial hypertension

Author(s): Sylwiusz Niedobylski, Katarzyna Laszczak Klaudia Żak, Milena Leziak Medical University in Lublin, Poland Presenting author: Sylwiusz Niedobylski Tutor(s): Katarzyna Skórzyńska-Dziduszko

Introduction

A bioavailability of the nitric oxide (NO) is regulated through interactions of the nitric oxide synthase (NOS) with a chaperone called the heat shock protein-90 (Hsp-90). An impaired NO bioavailability, which results from an endothelial dysfunction accompanied by a chronic low-grade inflammation, plays a crucial role in the arterial hypertension development. Up to date, the Hsp-90 role in arterial hypertension pathogenesis remains unclear.

Aim of the study was to evaluate Hsp-90 alpha serum concentrations and C-reactive protein (CRP) levels in patients with arterial hypertension in comparison to their age- and gender matched healthy counterparts.

Materials and methods The study was performed on 21 adult non-smoking patients (mean age of 55.2 years; 11 females and 10 males) newly diagnosed with arterial hypertension. The control group was composed of 14 healthy adult non-smoking volunteers (mean age of 56.6 years; 7 females and 7 males) with normal blood pressure. The participants of both the experimental group and the control group had an elevated waist circumference (equaled to or higher than 94 cm in men and 80 cm in women). All the individuals presented no subjective feeling of any disease (particularly any cardiovascular disorder), had not been diagnosed with arterial hypertension before, and admitted no drug treatment for any acute or chronic condition. Hsp-90 alpha concentrations were evaluated by enzyme-linked immunosorbent assay (ELISA).

Results Hsp-90 alpha concentrations were significantly higher (p = 0.016) in patients with arterial hypertension than in their normotensive counterparts: $18.82 \text{ ng/ml} \pm 2.56$ versus $16.38 \text{ ng/ml} \pm 2.75$, respectively. CRP levels in hypertensive subject were also significantly higher (p = 0.012) than in individuals with normal blood pressure: $7.87 \text{ mg/l} \pm 3.11$ versus $5.15 \text{ mg/l} \pm 2.5$, respectively. Hsp-90 alpha concentrations correlated positively with CRP levels (R = 0.49; p = 0.003) and the systolic pressure values (R = 0.37; p = 0.027).

Conclusion An increase of Hsp-90 *alpha* concentrations in patients with arterial hypertension may be a compensatory mechanism for an impaired bioavailability of nitric oxide. Moreover, an enhanced heat shock protein-90 response may be associated with a chronic low-grade inflammation in patients with arterial hypertension. A role of Hsp-90 *alpha* as a possible player in the arterial hypertension pathogenesis should be confirmed in further studies.

Predisposing factors of hepatic encephalopathy in patients with liver cirrhosis

Author(s): Raimundas Darafejus, Gabija Gintautaite Vilnius University, Lithuania Presenting author: Raimundas Darafejus Tutor(s): Ieva Stundiene

Introduction. Hepatic encephalopathy (HE) is a syndrome with a spectrum of neuropsychiatric abnormalities in patients with cirrhosis. Common precipitating factors are renal failure, liver infection, constipation, medications, dehydration, electrolyte imbalance, and others.

Aim of the study. The aim of this study was to explore the relationship between demographic and clinical characteristics and the development of HE in patients with cirrhosis.

Materials and Methods. A cross-sectional study was accomplished including 51 patients from a single Hepatology and Gastroenterology section. Analysis of recorded data was interpreted with MS Excel.

Results. In the research were evaluated 33 (64,7%) males and 18 (35,3%) females with a median age of 54 years (IQR 47-60). The leading cause of cirrhosis was alcohol (62,7%). The median MELD score was 18 (IQR, 13-26). In the Child-Pugh classification 4 patients were classified as class A (7,8%), 21 as class B (41,2%) and 26 as class C (51%). 29 of the patients developed hepatic encephalopathy (56,9%). There was no correlation between age and HE (p = 0.9). 16 males (48,48%) and 13 women developed HE (72,22%), p = 0.1. Portal hypertension occurred in 38 patients (72,6%), HE was diagnosed in 25 (65,8%) of them. In this condition, there was a statistically significant correlation - p = 0.028. 21 patients had anemia (41%), 15 of them evolved HE (71,42%), but there was no correlation with HE - p = 0.16. 11 patients had diabetes

(25,5%) and 4 of them had HE (36%) and there was no correlation with HE - p = 0,13. Average bilirubin and albumin levels were 136 μ mol/l and 21,24 g/L and there was no correlation with HE -

p = 0.93 and p = 0.4. 46 patients used diuretics (90.2%) and 28 (61%) suffered from HE, of the remaining 5, HE manifested to 1 (20%) and there was no correlation with HE - p = 0.08. 40 patients used lactulose (78,4%) and 25 had HE (62.5%), in another group with no lactulose HE occurred for 4 patients (36.4%) and there was no correlation with HE - p = 0.12.

Conclusion. In our study, we investigated the relationship between HE and age, sex, portal hypertension, anemia, diabetes, bilirubin, albumin level, use of diuretics and lactulose. However, only portal hypertension was associated with hepatic encephalopathy.

Endoscopic screening of the large intestine - presentation of the frequency of changes in the population of the County of Sztum

Author(s): Marek Olesz, Krzysztof Ciosek Koźlik Maciej, Krzysztof Sacha Medical University of Silesia in Katowice, Poland Presenting author: Marek Olesz Tutor(s): Zbigniew Ciosek

Colonoscopy is a colon screening test. Its performance can reduce the death rate of colorectal cancer by 60-70%. Colorectal cancer is the second most common of malignant cancers in men and the second most commonly occurring cancer in women. Annually, about 15,000 cases and 10,000 deaths are reported. The number of new cases is still growing, and one of the main reasons for this trend is population aging.

The aim of the study was to detect colorectal cancer at an early stage of its development (asymptomatic) and to remove polyp variants.

The method used was a colon endoscopic examination, conducted from 02.2015 to 05.2016. The study group consisted of 130 people residing in the County of Sztum. Prior to the colonoscopy, each participant had to give their consent to the examination in writing and complete 2 questionnaires that assessed contraindications to the procedures and the risk factors as well as provided information on the instances of cancer among their family members. The pathological changes in the large intestine were removed and sent to the histopathological laboratory for microscopic evaluation. The study was carried out thanks to the funds from the Norway Grants program and the Polish Ministry of Health.

The study group consisted of women (63%) and men (37%) mean age 63 (standard deviation 8.5). In 35% of people there were no pathological changes in colon execution. In 28% of the patients the occurrence of polyps was: hyperplastic (5%), regenerative (5%), and proliferative (3%). In 18% of cases, adenomas of the following type were found: tubular with low grade dysplasia (16%) and other (2%). In addition, adenocarcinoma was found in 2% of the cases. Other changes were: lipoma, Crohn 's disease, fibrosis, chronic inflammation. Diverticula were found in 12%, multiple polyps 16% of people, hemorrhoids in 24% of people (grades: 9% I, 14% II, 1% III).

Colonoscopy is one of the three cancer screening tests allowed in Poland. This test is highly effective in detecting lesions in the large intestine. Along with the increase in the age of respondents, we observed an increase in tubular adenoma lesions. The tubular adenoma predominated in both men and women. We suspect that the obtained results correspond to the relevant environmental factors and genetic predisposition among the respondents. Further screening for colorectal cancer is needed in the general population.

Willingness and ability of the hemodialysis patients to take part in the shared hemodialysis care program

Author(s): Joanna Forycka, Karolina Harendarz Natalia Cegielska Medical University of Lodz, Poland Presenting author: Joanna Forycka Tutor(s): Michał Nowicki

Introduction

Patient's participation in the tasks related to the hemodialysis treatment is uncommon and the patients are not trained to manage their own care. The recent Shared Haemodialysis Care (SHC) program in which the patients and medical personnel cooperated closely on the preparation and conduction of hemodialysis sessions showed significant improvement in the quality of life of the patients involved in hemodialysis.

Aim of the study:

Assessment of the willingness and ability of hemodialysis patients to participate in the preparation and conduction of hemodialysis therapy.

Material and methods:

55 hemodialysis patients from a single center with at least 4-week history of chronic dialysis therapy were asked to take part in a validated Shared Hemodialysis Care Survey, which included 3 open and 12 multiple choice questions to assess patients' disposition to actively participate in the process of their hemodialysis care and determine activities they want to be engaged in or the causes of their willingness or lack of interest in the participation in the SHC program. 21 patients (11F, 10M, age 67.3 \pm 14.3 years) agreed to take part in the survey and answered all the questions .

Results:

47.6% of the patients declared their willingness to participate in SHC, 38% reported that they were unwilling and 14.3% claimed that they would like to participate, but do not feel qualified. 71.4% of the patients included in the study claimed that they have never heard about the involvement of the patients in the management of the hemodialysis treatment. Our study revealed that the advanced procedures, undertaken successfully by the patients in the UK SHC study like the setting of dialysis machine, starting and cessation of hemodialysis or inserting dialysis needles into fistula are considered to be impracticable since none of the patients included in our study was eager to try to perform them even with the guidance and supervision of a nurse. 43% of the patients answered that none of the procedures were achievable.

Conclusion:

Only a half of the hemodialysis patients are willing to participate in the shared hemodialysis care program and co-share the responsibility of the treatment with the medical personnel. There is a compelling need of hemodialysis patients' education on the medical and technical aspects of their treatment.

Evaluation of AQP3 and AQP5 genes expression in hemodialyzed patients with end-stage renal disease

Author(s): Bartosz Lenda, Kinga Mosek Medical University of Lodz, Poland Presenting author: Bartosz Lenda Tutor(s): Dagmara Smajda-Krygier, Ewa Balcerczak

Introduction

Thirst and xerostomia are the main cause of excessive intake of fluids in patients on chronic haemodialysis and contribute to inter-dialysis weight gain (IDWG). High IDWG is associated with higher risk of all-cause and cardiovascular death. Understanding the physiology of water management in hemodialyzed patients allows to limit IDWG. Aquaporins (AQPs) are family of transmembrane channels, that mainly transport water across the cell. AQP3 is an aquaglyceroporin, localized in the plasma membranes of collecting duct principal cells. AQP5 is a water-selective aquaporin expressed mainly in glandular epithelia and intercalated cells of collecting ducts. Experimental data suggest ideal prospects for AQPs as biomarkers and therapeutic targets in clinic.

Aim of the study

The aim of the study was to evaluate the expression level of AQP3 and AQP5 genes in hemodialyzed patients with end-stage renal disease and determine the correlation between expression level of examined genes and clinical parameters of those patients.

Material and methods

40 samples of RNA were isolated from peripheral blood of hemodialyzed patients (24 men, 16 women, mean age 65 years, range 36-86 years) with end-stage renal disease from one Dialysis Station. Causes of end-stage renal disease in examined group included chronic glomerulonephritis (13 patients), diabetic nephropathy (13), polycystic kidney disease (2), hypertension (6) and unknown (6). Measured parameters were as follows: urea reduction ratio (URR), haemoglobin level, IDWG (kg and %), duration of a single haemodialysis procedure and duration of renal replacement therapy. Among all patients 13 were diabetic. To evaluate expression level of examined genes, real-time polymerase chain reaction was performed. Statistical analysis of results was done using Statistica 13.1. p < 0.05 was considered as statistically significant.

Results

Expression level of both AQP3 and AQP5 genes was found in each sample. Relative level of expression for AQP3 gene has median 1.12 and range 0.14-3.86. For AQP5 median was 0.81 and range 0.18-18.17. There was no statistically significant correlation between relative level of expression of both investigated genes and sex (AQP3 p=0.946; AQP5 p=0.924), age (p=0.699; p=0.948), cause of end-stage renal disease (p=0.469; p=0.209), URR (p=0.163; p=0.215), haemoglobin level (p=0.644; p=0.366), IDWG in kg and % (p=0.646, p=0.819; p=0.739, p=0.734), duration of a single haemodialysis procedure (p=0.646; p=0.388), duration of renal replacement therapy (p=0.525; p=0.874) and occurrence of diabetes (p=0.225; p=0.424). However, there was a tendency for lower values of AQP5 gene mRNA level in diabetic patients.

Conclusions

There is no correlation between expression level of AQP3 and AQP5 genes and demographic or clinical parameters of examined group of patients. Tendency of lower expression for AQP5 gene in diabetic patients looks promising and requires further research on a larger group of patients.

EFFECT ON ANTI-TNF- alpha THERAPY ON SLEEP QUALITY IN PATIENTS WITH INFLAMMATORY BOWEL DISEASES.

Author(s): Krzysztof Szewczyk Medical University of Lodz, Poland Presenting author: Krzysztof Szewczyk Tutor(s): Marcin Sochal, Piotr Białasiewicz Ewa Małecka-Panas

Background and aims: Sleep might be involved in modulation of the immunologic system activity, in particular sleep deprivation increases serum levels of TNF- *alpha*. Sleep problems are common among patients with inflammatory bowel disease (IBD). Therefore, the aim of the study was to assess changes in sleep quality after anti-TNF- *alpha* therapy.

Methods:

Sixty-one IBD patients (46 with Crohn 's disease-CD and 15 with ulcerative colitis-UC) were recruited for the study. Twenty-six (42.62%) were treated with anti-TNF- alpha induction therapy and were re-examined after 14 weeks of this treatment. According to the Harvey-Bradshaw Index (HBI), in remission was 57.38% (n=35) patients. Sleep quality was assessed by the Pittsburgh Sleep Quality Questionnaire (PSQI), the Athens Insomnia Scale (AIS) and Epworth Sleepiness Scale (ESS). Sleep disturbance was considered as 6 and more points according to PSQI.

Results: There was no difference between patients with UC and CD among the questionnaires: AIS (p=0.781), PSQI (p=0.774), and ESS (p=0.774). Six and more points reached 46.15% (n=12) patients with exacerbation and 11.43% (n=4; p=0.003) in remission. After therapy, 19.23% (n=5) patients had sleep disturbance. After biological therapy, the results in the AIS (5.5 IQR: 4-9; vs. 3 IQR: 3-5; p=0.012), PSQI (5 IQR: 4-10 vs. 4 IQR: 3-5; p=0.012), but not in ESS (6 IQR: 4-10 vs. 4.5 IQR: 3-8; p=0.051) were decreased. Detailed analysis showed that sleep efficiency (expressed as (hours slept / hours in bed)*100)) improved after anti-TNF-alpha therapy (89.22 IQR: 76.47-94.74 vs. 100 IQR: 92.49-100; p=0.011) and sleep latency decreased (30 minutes IQR: 10-45 vs. 17.5 minutes IQR: 10-30; p=0.023). Moreover, sleep time increased (7 hours IQR: 6-8 vs. 8 hours IQR: 7-8.5; p=0.016). AIS results after treatment were lower than in patients in remission (3 IQR: 3-5 vs. 6 IQR: 3-8; p=0.017). This relationship was not observed in the case of PSQI (4 IQR: 2-5 vs. 4 IQR: 2-6; p=0.901).

Conclusion: Anti-TNF- alpha therapy improves sleep quality in IBD patients. Further studies should investigate the correlation of TNF- alpha with sleep quality during biological therapy.

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Lipid Homeostasis Disturbances in Patients with Tuberous Sclerosis Complex

Author(s): Ewa Sokolewicz Medical University of Gdańsk, Poland Presenting author: Ewa Maria Sokolewicz Tutor(s): Agnieszka Tarasewicz, Alicja Dębska-Ślizień

Introduction

Tuberous sclerosis complex (TSC) is a rare genetic disorder affecting many organs, caused by mutations of TSC1 or TSC2 genes, and resulting in constitutive hyperactivation of mammalian target of rapamycin (mTOR) kinase. One of the metabolic effects is hyperlipidemia. mTOR inhibitors (mTORI), namely sirolimus and everolimus, are the treatment of choice in many TSC organ manifestations. By affecting the insulin signalling pathway, they upregulate the activity of adipose tissue lipase, while also downregulating lipoprotein lipase, causing a shift of the body homeostasis towards an anabolic state. Thus, reported side effects of mTORI include, among others, hyperlipidemia. TSC patients with renal involvement are at risk of chronic kidney disease (CKD).

Aim of the study

The aim of the study was to determine lipid disturbances in adult TSC patients.

Materials and Methods

In the study, we analysed 56 TSC patients (30 F, 26 M) in the mean age of 31.27 ± 10.54 yrs, admitted to the academic reference centre.

We measured the basic indicators of lipid homeostasis, including total cholesterol (TCh), triglycerides (TGL), high density lipoprotein (HDL), low density lipoprotein (LDL), and compared patients on mTORI therapy (9 of the 56 patients treated with sirolimus or its derivative, everolimus) with patients not treated at the time of assessment (47 of 56).

Results

21 of the 56 individuals (37.5%) presented with TCh level > 200 mg/dL, 18/56 (32,14%) with LDL>130 mg/d, 10/56 (17,86%) with HDL<40 mg/dL, and 13/56 patients (23.21%) with TGL>150 mg/dL. The analysis of the ratios of TCh to HDL (TCh/HDL) and LDL to HDL (LDL/HDL) revealed 24 patients (42.86%) with elevated TCh/HDL and 26 cases (46.43%) with abnormal LDL/HDL ratio.

Among 9 patients treated with an mTOR inhibitor, 4 (44.45%) presented with elevated TCh, TGL, CHOL/HDL and LDL/HDL. Of the 47 patients not exposed to an mTORI, 17 (36,17%) had elevated TCh and 9 (19,14%) elevated TGL. 20 (42,55%) and 22 (46,8%) patients presented with elevated TCh/HDL and LDL/HDL ratios, respectively. No significant differences were found between the two groups of patients.

Conclusions

Adult TSC patients have a relatively high prevalence of hyperlipidemia. It is not only attributed to the mTORI treatment, but often is also the consequence of the disease. It is crucial to pay special attention to the lipid profile in this set of patients, since they may experience secondary effects of hyperlipidemia, which is an important risk factor for atherosclerosis and cardiovascular disease (CVD). CVD is the main comorbidity in CKD patients - it may be a consequence or cause of CKD. Due to this complex relationship between CKD, CVD and hyperlipidemia, it is crucial to assess TSC patients 'lipid profiles and take appropriate measures.

Serum level of chemerin correlate with the severity of Crohn's disease

Author(s): Kasper Kuna
Medical University of Lodz, Poland
Presenting author: Kasper Kuna
Tutor(s): Marcin Sochal, Agata Gabryelska
Ewa Małecka-Panas

Background and aims: Chemerin belongs to adipokines, which are proteins secreted by white adipose tissue. It has important role in angiogenesis, metabolism and correlates with severity of inflammation. The aim of the study was to investigate the correlation between the serum level of chemerin and the severity of inflammatory bowel diseases (IBD) and compared between Crohn's disease (CD and health control (HC).

Methods: Thirty-five participants were recruited for this study - 25 with CD and 10 HC. According to the Harvey-Bradshaw Index (HBI) 52% (n=13) of CD were patients in exacerbation of the disease and 48% (n=12) in remission. Subjective severity of pain was assessed by the Visual Analog Scale (VAS). Socio-demographic data were also collected. Serum chemerin level was determined by ELISA.

Results: There was no statistical difference in serum level of chemerin between CD patients (349.11ng/mL IQR:176.53-613.48) and HC (235.28ng/mL IQR:125.13-429.89; p=0.333) Patients in exacerbation (551.06ng/mL IQR:275.67-830.12) had higher level of chemerin compared to participants in remission (183.87ng/mL IQR:150.83-385.83; p=0.011). There was also difference between patients in exacerbation (551.06ng/mL IQR:275.67-830.12) and HC (235.28ng/mL IQR:125.13-429.89; p=0.038). Positive correlation between chemerin and HBI (r=0.469, p=0.021) was found. Correlations in CD group were also obtained for VAS (r=0.453, p=0.0228). Chemerin did not correlate with BMI (r=-0.172, p=0.410).

Conclusions: Chemerin correlate with severity of CD and pain. However, no difference was observed between CD and HC. Perhaps chemerin might be a useful marker of inflammation in CD, which requires further research. Supported by grant from the Medical University of Lodz, Poland- 564/1-000-00/564-20-024.

Electrolyte imbalance in hospitalized patients - a retrospective cohort study: preliminary data

Author(s): Paulina Olczak, Julia Pyrz Anna Szmigiel Medical University of Lodz, Poland, Poland Presenting author: Paulina Olczak Tutor(s): Ewa Pawłowicz, Michał Nowicki

Introduction: Electrolyte imbalance (EI) is a common abnormality in patients admitted to a hospital. EI significantly influences morbidity and mortality in the general population. Most reports on EI address its prevalence and intensity in patients suffering from a certain disease. However, data on EI in patients hospitalised for any reason are scarce.

Aim of the study: The aim of the study was to analyse the prevalence and intensity of electrolyte imbalance during hospitalization in an unselected population of patients treated in four different departments of the tertiary hospital.

Materials and methods: Medical records of 1375 patients (729 females and 646 males) treated over a 3-month period of 2019 in internal medicine, nephrology, general surgery, and orthopaedics departments were retrospectively analysed. Concentrations of sodium, potassium and chloride ions at admission and number of electrolytes measurements during the hospital stay were collected. Data on the length of stay, serum creatinine and BUN concentrations, comorbidities and drugs prescribed at discharge were gathered.

Results: 26.4% of all patients presented at admission with abnormal concentration of either serum sodium or potassium, or both. Hyponatremia was detected in 18.1% of patients at admission and was the most common EI; moderate or severe hyponatremia was found in 4.3% of patients. Hyperkalemia and hypokalemia were found in 6.8% and 5.7%, respectively. EIs were significantly more prevalent in elderly patients (p<0.001) and in patients with decreased eGFR (p<0.001). In 35.3% of patients with EI at admission, serum electrolyte measurement was repeated within next 24 hours. Electrolyte concentrations were measured approximately 2.8 times a week during hospitalization. Length of stay was significantly longer in patients that presented with EI at admission (median 7 vs. 5 days; p<0.001). EI was associated with increased in-hospital mortality (odds ratio 3.86 95% CI (2.18; 6.83); p<0.001; adjusted for age, sex and comorbidities).

Conclusions: Electrolyte imbalance is a very common finding in patients hospitalized for any reason. It is an important, yet underestimated, parameter associated with length of hospital stay and overall mortality.

The effect of diuretics on exacerbations of COPD and hospitalization rates

Author(s): Vaida Sudmantaitė Vilnius University, Lithuania Presenting author: Vaida Sudmantaitė Tutor(s): Elena Jureviciene, Roma Puronaite

Introduction

Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory lung disease causing airway obstruction and systemic effects. Common risk factors and systemic inflammation may influence increased risk of cardiovascular diseases (CVD) including heart failure. Symptoms include shortness of breath, syncope, tiredness, chest pain, swelling of the legs, and tachycardia. All of them increase the main disease hospitalisation and mortality rate.

Aim of the study

To evaluate the influence of diuretics treatment on COPD exacerbations and hospitalization rates.

Material and methods

An anonimazied cross-sectional analysis of National Health Insurance Fund database used for reimbursement for the healthcare services was conducted covering the period for 2.5 years. Descriptive statistics, odds ratios (OR) and 95 % confidence intervals (CI) for associations were computed using STATISTICA version 10 (StatSoft, Inc).

To increase the sensitivity of case definition for COPD, only patients who had received prescriptions for reimbursed bronchodilators at least for 6 months were included.

Results

Out of 4834 COPD patients, 69.1% were men and 30.9% - women. The mean age was 67.2 years. 83% of them were found having CVD including heart failure (65.1%). 3209 (66.38%) received diuretics: 46% received of them for at least one day and 23.3% - for at least 3 months per year. 1737 patients were hospitalized at least once per period for COPD exacerbation or CVD. Patients on diuretics were statistically significantly more frequently hospitalized for any reason (p < 0.001). As well as, the incidence of hospitalizations due to COPD was higher in taking diuretics (p < 0.001). The average in-patient days of hospitalized COPD patients was 20.9 \pm 20.15 days.

Conclusion

Summarizing our study results, we can conclude that patients on diuretics were more frequently hospitalized for any reason, as well as COPD exacerbations.

Risk factors for developing antibiotic associated diarrhea in patients with urinary tract infection

Author(s): Teodora Brdar University of Novi Sad, Serbia Presenting author: Teodora Brdar Tutor(s): Radoslava Doder

INTRODUCTION: Urinary tract infections (UTI) are consequence of invasion of the urinary mucosa with patogenic bacteria. First choice of treatment are different groups of antibiotics, primarly cephalosporins and fluoroquinolones. One of the adverse effects of those antibiotics is development of antibiotic associated diarrhea (AAD) which is mainly caused by bacteria Clostridium difficile.

THE AIM: The aim of this study is to identify patients with AAD, as well as determinating role of some risk factors that contribute to it in patients with UTI.

MATHERIAL AND METHODS: Retrospective study encompassed 140 patients with UTI in two year period. Patients are divided into two groups: group of patients older than 65 years and group of patients younger than 65 years. Patients are followed up clinically, laboratory, we noted response to treatment and appearance of AAD.

RESULTS: In this study female sex dominates (M : F = 39.2% : 60.8%). Mean age of patients in group >65 is 75.2

6.7 years, and in group < 65 is 42.8 ± 14.5 years. In both groups as most frequent isolated cause was E. coli. Most of the patients are treated with cephalosporins and fluoroquinolones. Out of 140 patients, 27 (19.3%) developed AAD in hospital environment, 21 from group >65 and 6 from group <65. Statistically significant difference is found in patients age, days of duration of diarrhea and number of stools per day.

CONLUSION: After this study we can conclude that AAD is more frequent in elderly patients and patients that spend more days in hospital during treatment. Use of antibiotics that are used for UTI treatment is risk factor for developing AAD.

Comparison of serum procalcitonin and neutrophil to lymphocyte ratio levels at different CURB-65 scores among patients with community-acquired pneumonia

Author(s): Konstantīns Ščerbakovs, Latvia Presenting author: Konstantīns Ščerbakovs Tutor(s): Inga Stukena

Introduction: Neutrophil-to-lymphocyte ratio (NLR) is a simple test, that is proposed as a biomarker of inflammation associated with appendicitis, acute pancreatitis, bacteremia, septic shock etc.

Objectives: Aim of the study is compare NLR with procalcitonin (PCT) and evaluate NLR relation with community-acquired pneumonia (CAP) severity.

Methods: Retrospective observational study was performed at Riga East Clinical University Hospital. Based on inclusion and exclusion criteria, 172 patients with the diagnosis of CAP (in the time period from December 21st, 2017 to December 29th, 2018) were enrolled. For analytical statistics IBM SPSS ver23 were utilized.

Results: 143/172 (83.1 %) of the patients was admitted to pulmonary ward, 29 (16.9 %) patients was admitted to the intensive care unit (ICU), 22 (14.5%) was complicated with sepsis and 26 (15.1 %) patients of the study cohort died. CURB-65 score of 1 or 0 had 52/172 (30,2 %) patients. The score of 2 was observed in 21/172 (12.2 %) patients, the score of 3 and more - in 37/172 (21.5%). There was medium correlation level between PCT (R=0.442 (p=0.000) and NLR R=0.299 (p=0.002) with CURB-65 scale. The correlation coefficient between NLR and procalcitonin (PCT ng/ml) were R=0.473 (P<.001). Median PCT serum concentration in CURB-65 group with 0-1 points was 0,25 ng/ml (IQR=0,10-0,88), in CURB-65 group with 2 points median PCT was 0,40 ng/ml (IQR=0,14-1,68) and in CURB-65 group with more than 3 points median PCT was 4,90 ng/ml (IQR=0,96-9,59). Median NLR value in CURB-65 group with 0-1 points was 6,94 (IQR=5,06-15,33), in CURB-65 group with 2 points NLR value was 9,48 (IQR=5,23-23,05) and in CURB-65 group with more than 3 points NLR value was 14,26 (IQR=8,50-20,75).

There was statistically significant difference between NLR (p=0.016) and PCT (p=0.004) values across CRUB65 groups.

Conclusion: According to the results, measurement of PCT serum concentrations and NLR level in patients with CAP provides information about the severity of disease associated with CURB-65 score. Although, correlation between NLR and PCT is intermediate, NLR levels above 10 could be used to indicate more severe CAP patient.

IL-33 and soluble ST2 receptor as mediators of systemic inflammation in OSA patients

Author(s): Adrianna Owczarek Medical University of Lodz, Poland Presenting author: Adrianna Owczarek Tutor(s): Agata Gabryelska, Marcin Sochal Piotr Białasiewicz

INTRODUCTION:

Obstructive sleep apnea syndrome (OSA) is a chronic condition characterized by recurrent pauses in breathing during sleep. OSA is highly associated with chronic low-grade systemic inflammation.

Interleukin 1 superfamily (IL-1) is a group of 11 cytokines which play a role in a wide range of immune processes. IL-33, one of the most recently discovered members of IL-1 superfamily is an alarmin cytokine promoting inflammatory responses. IL-33 signaling pathway begins with binding of the cytokine to the ST2 receptor. Activation of IL-33 is limited by soluble ST2 (sST2) receptor freely present in blood.

AIM OF STUDY

The main aim of the project was to investigate IL-33 and receptor sST2 protein level in blood serum of OSA and comparison to healthy individuals with association of polysomnography parameters.

MATERIALS AND METHODS:

The study included 40 individuals, who underwent PSG and based on apnea-hypopnea index (AHI) were divided into severe OSA group (n=20; AHI 30; 85% male) and healthy control (n=20; AHI<5; 70% male). All participants had their peripheral blood collected in the morning (6:00-7:00am) after the PSG. IL-33 and sST2 protein concertation measurements were performed using ELISA.

RESULTS:

Groups were matched regarding sex (p=0.2962), age (p=0.292) and total sleep time (p=0.279).

OSA group compared to control group had both higher level of IL-33 serum protein ($118.15 \,\mathrm{pg/mL}$, IQR: 76.97 - 140.41 vs. $40.23 \,\mathrm{pg/mL}$, IQR: 27.43 - 93.95) and sST serum protein ($209.54 \, 50.39 \,\mathrm{pg/mL}$ vs. $159.07 \, 49.04 \,\mathrm{pg/mL}$). IL-33 correlated with disease severity measured by apnea-hypopnea index (AHI) (p<0.001; r=0.597), arousal index (p=0.014, r=0.385) and BMI (p=0.005, r=0.438), while sST2 protein level was only associated with AHI (p<0.001, r=0.538). Further, correlation between IL-33 and sST2 protein level was observed (p<0.001, r=0.577). Multiple regression, using the progressive step method, revealed that IL-33 protein level was significantly affected by AHI (p<0.001, b=0.487) and sST2 level (p=0.025, b=0.317). Obtained model explained 49.3% of IL-33 protein level variability.

CONCLUSION:

OSA patients suffer from increased inflammation mediated by IL-33, which is associated with elevation of soluble ST2 receptor and severity of the disorder.

Vaccination against influenza in kidney transplant recipients: safety and clinical efficacy

Author(s): Maja Nowicka, Krzysztof Edyko Monika Górska, Katarzyna Staniecka Medical University of Lodz, Poland Presenting author: Maja Nowicka Tutor(s): Ilona Kurnatowska, Adam Antczak Anna Zawiasa-Bryszewska, Agnieszka Makówka

Introduction

Kidney transplant (KTx) recipients are more susceptible to infections, including influenza. The course of the infection is often severe and associated with complications.

Aim of the study

To evaluate the clinical efficacy and safety of influenza vaccination in KTx recipients.

Material and methods

For this prospective study we qualified patients at least 6 months post-KTx, with stable graft function, without contraindications for vaccination. The patients were either vaccinated with the Sanofi Pasteur inactivated Vaxigrip Tetra vaccine or formed the control group. All participants were instructed to fill in 6-month self-observation diaries for the occurrence of infection symptoms. The criteria of an 'infection' were: an incident of 2 or more cold symptoms, at least one of which lasting over 3 days; the criteria of a 'serious infection' were: the need for hospitalization and/or a fever (≥ 38 textdegree C) with at least one cold symptom lasting over 3 days. Clinical data were obtained from medical records. Kidney graft function and full blood count were assessed prior to vaccination and 6 m onths after.

Results

110 patients (34 K, 76 M) were included in the study, with a mean 6.8 ± 4.7 years after KTx, mean age of 53.2 ± 11.7 years, and mean eGFR (CKD-EPI) of 54.0 ± 21.0 ml/min/1.73 m2. Seventy-nine patients were vaccinated (vKTx), 31 were not (cKTx).

No severe side-effects were observed either immediately post-vaccination or in the 6-month follow-up. A quarter (25.3%, n=20) of vKTx reported at least one side-effect; the most common were general weakness (12.7%, n=10) and injection site pain (10.1%, n=8). Graft function and full blood count results were comparable prior to vaccination and 6 months after.

During the observation period 30.4% (n=24) vKTx and 45.2% (n=14) cKTx underwent at least one respiratory tract infection (p=.27). vKTx significantly less often experienced serious infections (11.4%, n=9 vs. 32.3%, n=10; p=.02). Vaccinated patients also significantly less frequently reported the occurrence of similar symptoms among family and coworkers (in 24.1% vs. 55.0% of infections; p=.015) and less often received antibiotics (in 18.2% vs. 42.9% of infections; p=.04).

The frequency and severity of infections were unrelated to either sex or age.

Conclusions

Vaccination against influenza is safe for KTx recipients and has few, moderate side-effects. It decreases the frequency of severe respiratory tract infections and the use of antibiotics in this population.

Analysis of quality of life, disease acceptance and health control locus among asthma patients

Author(s): Maja Zawadzka, Kacper Mazurkiewicz Agnieszka Ławkiedraj, Zofia Misztal Medical University of Lodz, Poland Presenting author: Maja Zawadzka Tutor(s): Michał Panek

I ntroduction

Asthma is a chronic lung disease with a varying clinical course. It causes many limitations on patients functioning and quality of life. One of the main burdens of uncontrolled asthma are limits in everyday activities either professional or recreational. Acceptance of the consequences associated with this disease and the health control locus may thus be the factors influencing patient's quality of life.

Aim of the study

To assess the level of acceptance of illness (asthma) and quality of life of asthma patients and to investigate possible correlations between health control locus.

Materials & methods

The study included 42 patients with physician-diagnosed asthma, each of whom were patient of Department of Internal Diseases, Asthma and Allergy, Medical University of Lodz. Specific patients' medical data were collected using socio-demographic questionnaire designed for that purpose, including Asthma Control Test (ACT) . 3 standardized questionnaires were used: Acceptance of Illness Scale (AIS), Multidimensional Health Locus of Control (MHLC) and disease-specific Asthma Quality of Life Questionnaire (AQLQ) in order to measure: acceptance of the disease, health control locus and asthma-related quality of life. To assess correlations, we used Spearman's rank correlation test and to examine differences between groups one-way ANOVA with post-hoc tests were performed.

Results

The mean AIS score was $29,17 \pm 9,14$. The mean MHLC score in dimensions: internal, external chance and other peoples influence were $22,07 \pm 6,72$, $20,90 \pm 5,66$ and $26,19 \pm 7,19$ accordingly. Acceptance of illness correlated positively with quality of life (p < 0,001). The internal dimension of health control locus correlated positively with disease acceptance (p < 0,05), locating health control more externally in other peoples influence correlated negatively with disease acceptance (p < 0,05). There was no statistically significant correlation between locating health control in external chance and acceptance of illness (p = 0.62). Within all examined dimensions of health control locus, only location of health control in other peoples influence significantly negatively correlated with quality of life (p < 0,001). ANOVA analysis revealed significant differences in AIS score between three groups set up by Asthma Control Test score which could not be assessed by further post-hoc tests (p > 0,05).

Conclusions

Asthmatic patients demonstrate high level of disease acceptance. Defining health control locus should be taken into consideration as an important factor of disease management, as it may affect both quality of life and acceptance of asthma. Results suggest that effort put into promoting an internal location of health control may be beneficial for patients because it improves its acceptance. Despite lack of correlation between internal health control locus and quality of life, we can improve it by reducing location of health control into other peoples influence.

Bleeding event due to warfarin use - how much does it cost?

Author(s): Ieva Kvietinskaitė Vilnius University, Lithuania Presenting author: Ieva Kvietinskaitė Tutor(s): Gabija Laubner, Gabija Mikuleviciene

Introduction: Warfarin and other vitamin K agonist are widely used anticoagulants in clinical practice because of their effectiveness and low-cost. Nevertheless its application is associated with a significant risk of bleeding that determines significant treatments costs.

Aim: To evaluate frequency, severity, indirect costs of bleeding events due to prescribed warfarin usage for patients who were admitted to Republican Vilnius university hospital during 2013-2018.

Material&Methods: The retrospective cohort study was performed in Republican Vilnius University hospital. Inclusion criteria were bleeding events which required hospitalization, when warfarin use was known and International normalization ratio (INR) were >2 on admission. Patients with comorbidities that could cause bleeding itself, such as cirrhosis or congenital coagulopathies, were excluded. Study included 456 patients. Further data was collected: age, gender, localization of bleeding, duration of hospitalization, laboratory analysis, tactics of bleeding treatment, outcomes (died or survived).

Results: Median of age 78 [36;97]. There were 220 (47,8%) men, 236 (51,3%) women. The most common was gastrointestinal bleeding - 190 (41,6%), intracerebral 73 (16%) and bleeding from nose or throat 74 (16,2%) were also often. Bleeding from 2 different localization were in 41 (8,9%) cases, 3 different localizations - 2 cases. The major bleeding - 280 cases (207 cases who had at least 2 counts of RBC and 73 cases of intracerebral bleeding). 14,7% (67 cases) who had bleeding due to warfarin use were lethal. The median of ICU stays until death - 3 days. Economical costs of bleeding due to warfarin use have been described indirectly. Intracerebral bleeding causes the longest hospitalization and ICU stay, requires highest doses of prothrombin complex concentrate (PCC) (possible due to further operation need). Gastrointestinal bleeding requires high doses of transfusions (fresh frozen plasma (FFP) and RBC) although hospital stay is twice, and ICU stay 3 times lower than in intracerebral bleeding cases. During hospital stay 46,3% patients had RBC transfusion.

Conclusions: The most common origin of bleeding was gastrointestinal and intracerebral. Intracerebral bleeding was one who caused the longest hospitalization and ICU stay, required highest doses of PCC comparing with others.

Neurology



Coordinators: Agata Kiedrzyńska, Andrzej Weber,

Jury:

prof. dr hab. n. biol. Wiesława Agnieszka Fogel, dr hab. n. med. prof. nadzw. Tomasz Boczek, prof. dr hab. n.med. Dariusz Jaskólski,

Analysis of influence of prenatal exposition to testosterone in patients with multiple sclerosis treated with natalizumab and fingolimod.

Author(s): Michalina Wiwatowska, Dominika Świerczewska Izabela Cieciora, Piotr Kuchta Medical University of Lodz, Poland Presenting author: Michalina Wiwatowska Tutor(s): Bartosz Bielecki

Introduction:

Multiple sclerosis (MS) is a chronic inflammatory disease of the central nervous system (CNS). Myelin loss is in MS is one of major factors leading to axonal loss and contributor to neurological deficit and cognitive dysfunction. Many studies show a role of androgens in pathogenesis of MS. Women are more often affected by MS than men. Exposition to low levels of primary androgen the testosterone (T) during prenatal period as well as hypogonadism represent risk factors for developing MS. Androgens are known modulators of peripheral immune response but T plays also a role in formation and repair of myelin in the CNS suggesting its neuroprotective role. Up to date there's limited amount of data on possible influence of prenatal exposition to T on progression and response to treatment during MS.

Aims:

During prenatal period vulnerability to neurologic diseases including MS might develop. In this work we studied a link between prenatal exposition to T and clinical progression of patients treated for relapsing form of MS (RMS). The ratio of length of second and fourth digit (2D:4D ratio or digit ratio/DR) is known to reflect the ratio of prenatal androgen to estrogen levels. We analyzed correlation between DR and neurological status of patients treated with immunomodulatory drugs natalizumab (NTZ) and fingolimod (FNG). For a full clinical assessment in our study we included neurological examination and a battery of neuropsychological tests.

Materials and methods:

We enrolled 18 patients with RMS treated with NTZ and FDG. DR was measured using a digital scanner. Neurological outcome was determined using standard Expanded Disability Status Scale (EDSS). For assessment of cognitive functions we used Symbol Digit Modalities Test (SDMT) along with Fatigue Scale for Motor and Cognitive Function (FSMC). Since patients suffering from MS frequently cope with depressive disorders we measured its severity with Beck Depression Inventory (BDI).

Results:

A higher DR is known to be linked with a lower in utero balance of androgens to estrogen. Our patients treated with NTZ had higher EDSS in comparison to FDG. We found a weak correlation between EDSS and DR. This tendency was detectable in group treated with NTZ and was strong enough to abolish the opposite trend observed among FNG patients. In our cohort patients treated with FNG performed better in SDMT and we observed a weak trend for a correlation with DR. We didn't find any link between DR and cognitive part FSMC test. There was a negative correlation between DR and BDI regardless of treatment.

Conclusions:

Our observations indicate existing link between prenatal exposition to T and outcome of patients with RMS treated with NTZ and FDG. The data may provide useful information for the use of DR as a marker for response to different MS therapies. In future we want to further study correlation between DR and different aspects of outcome and progression of MS in other forms of treatment.

Assessment of the risk of deterioration among conservatively treated patients due to mild traumatic brain injury

Author(s): Rafał Chojak Wrocław Medical University, Poland Presenting author: Rafał Chojak Tutor(s): Bogdan Czapiga, Marta Koźba-Gosztyła

Introduction: Traumatic brain injury (TBI) is experienced by about 50 millions of people worldwide every year. Most cases are classified as mild traumatic brain injury (TBI) based on the Glasgow Coma Scale (GCS) score on admission. Patients diagnosed with mTBI are referred for in-hospital observation at the neurosurgical department. This solution is to ensure rapid neurosurgical intervention in the event of life-threating deterioration.

Aim of study: This study aimed to determine the risk of deterioration (GCS drop during hospitalization) and the need for neurosurgical intervention (NI) among patients conservatively treated due to the mTBI.

Material and methods: Retrospective analysis of 186 patients diagnosed with mTBI in 2008-2019 were performed. According to the GCS score on admission, patients were divided into 3 groups: GCS 13, GCS 14 and GCS 15. Their medical records were investigated for deterioration and NI. Age, gender and length of stay were also analyzed.

Results: Deterioration was observed in seven (3.76%) out of all 186 cases. In particular groups, three (2.52%) deteriorations occurred in the GCS 15 group. Two (3.85%) in the GCS 14 group and also two (13.33%) in GCS 13. Three NI were needed, two in GCS 14 and one in GCS 13. One patient from GCS 13 group died after 8 days from surgery.

Conclusions: Patients with a GCS score of 15 on admission are the least likely to deteriorate. The need for NI in these patients is very unlikely. The greatest risk of deterioration and the need for NI is among patients with a GCS score of 13 on admission due to mTBI.

Neurofilaments in cerebrospinal fluid of multiple sclerosis patients: association with demographic factors and clinical symptoms

Author(s): Ramunė Motiekaitytė
Vilnius university, Lithuania
Presenting author: Ramunė Motiekaitytė
Tutor(s): Rasa Kizlaitiene, Natasa Gieaitiene
Loreta Bagdonaite, Vera Bukina

Introduction. Neurofilaments are the intermediate filaments of nerve cells, also one of three classes of cytoskeletal polymers that comprise the nerve cell cytoskeleton. Neurofilaments are released into cerebrospinal fluid (CSF) heralding axonal injury as a result of neurological degenerative diseases, including multiple sclerosis (MS). Aim of the study. To determine the concentration of neurofilament light chain (NF-L) in CSF of patients with multiple sclerosis (IS) and demyelination, to evaluate its correlation with clinical and demographic parameters of the subjects. Materials and methods. Patients with diagnosis of MS or demyelinating disease ((n = 49), 32 (65%) females; mean age 37 ± 9.7 years), admitted to Department of Neurology in 2018 February - November were included in the study. With the approval of the VULSK Commission of Ethics, demographic and clinical data of the subjects were collected retrospectively and levels of NF-L in CSF were measured by immunoassay. Subjects were divided into age groups (<29, 30-39,>40 yr.), disability levels based on Expanded Disability Status Scale (EDSS) scores (<2.5, 3-3.5,>4) and presence of oligoclonal bands (OCBs) in CSF (OCBs + /OCBs -). The correlation between collected data and the concentration of NF-L in CSF was analysed. For data analysis Statistical Analysis SPSS software were used, the statistically significant differences between groups were considered at an adjusted p <0.05.

Results. In the studied sample, the median concentration of NF-L in CSF was 705.3 pg / ml (min. 223.14pg / ml, max. 5576.72pg / ml). Difference between mean values of NF-L among three age categories was statistically significant (p = 0.01). The highest median value was observed in the youngest group (998.53pg / ml). NF-L levels in CSF of patients with IS diagnosis were significantly (t = 4.935, p <0.0005) different from those diagnosed with demyelination (medians 865.93pg / ml and 530.3pg / ml). EDSS was evaluated in patients with IS (n = 37). A moderate (r = 0.480, p = 0.003) correlation between EDSS and NF-L content in CSF was obtained. Difference between mean values of NF-L among three disability groups were statistically significant (p = 0.005). The highest median of NF-L concentration (2103.61pg / ml) were determined in most severe disability group (EDSS score >4). A moderate correlation (r = 0.392, p = 0.005) were found between the presence of OCBs in CSF and the concentration of NF-L. There were statistically significant differences in OCBs + and OCBs - groups (t = 2.418, p = 0.02).

Conclusion. Higher levels of NF-L in CSF are discovered in younger patients also among subjects with present OCBs in CSF. Amounts of neurofilaments increase with progression of EDSS disability. Further indepth studies are required to assess the role of NF-L in the onset of IS, its prognostic significance in the course of the disease, and long-term disability.

Migraine and its' impact on patients' social life

Author(s): Anna Lupa, Ilona Malska Marcelina Łagosz Medical University of Silesia, Poland Presenting author: Ilona Malska Tutor(s): Ewa Krzystanek

Introduction:

Migraine is common neurological condition with significan t social and economic impact. Patients who suffer from migraine are often stigmatized which can result in prejudice as well as rejection from society. As a consequence, it directly affects the quality of patients' lives.

Purpose:

The aim of the study was to investigate how the migraine affects on patients' social lives as well as to show how does the lack of understanding from environment influence their mood. Also the purpose was to find out if the medical care was run properly including effectivity of used drugs and empathy demonstrated by the doctors.

Methods:

The online questionnaire was carried out in the group of 608 patients (97,5% women, 2,5% men) with migraine to obtain information about the influence of the disease on their social life. The survey also contained BDI (Beck Depression Inventory) that helped to determinate the impact of migraine on patients' recent mood.

Results:

Migraine is substantial problem that affects mostly women (97.5%). A definitive cause is not identified, however the main contributing factors that can trigger the condition are stress (78.3%) and sleep deprivation (51.9%). Definitely more common type of migraine headache are those with aura (70.7%) that occurs a few minutes before the attack (47.2%). 95.7% of patients declare that migraine has negative impact on their everyday duties. According to the results most of respondents declared that they also have negative mood states since they suffer from migraine (53%), moreover some of them show signs of mild depression (29.3%) and even deep depression (17.4%). This can be also connected with marginalising main symptoms by the doctors (47.4%), treatment that is not effective (30.3%) or accusing patients of simulation (45.8%). As many as 86.2% of surveyed declare that migraine is responsible for neglected relationships with their friends, families and also malversation (76.5%).

Conclusion:

The problem of recurring headache in patients should always be deeply analysed. This may speed up the diagnosis, provide effective treatment and reduce the pain. Also very important is to change the way people perceive migraine to alleviate social stigma. This can be achieved by using simple language and proper education .That way, patients' social life, mood and self-esteem will improve.

Connections between genetic variability in DDC, MAOB and DRD2 genes and clinical course of Parkinson's disease

Author(s): Olaf Chmura
Jagiellonian University Medical College, Poland
Presenting author: Olaf Chmura
Tutor(s): Barbara Zapala, Marek Dziechciowski
Monika Piwowar

Introduction: Parkinson's disease is the second most common neurodegenerative disorder in the world with Levodopa being the gold therapeutic standard. Both the clinical course and the response to levodopa treatment may be varied, possibly from the fact that the genetic variability may determine the response to the treatment.

Aim of the study: The aim of this work is to investigate the impact of genetic variants in the genes coding monoamine oxidase B (MAOB), dopamine receptor D2 (DRD2) and DOPA decarboxylase (DDC) on the observed differences in the clinical course of Parkinson's disease and the effects of levodopa treatment in the diagnosed patients.

Material and Methods:Patients diagnosed with Parkinson's disease n were included into the study group (114 patients: women and men aged 39 to 95). The whole peripheral blood was drawn from the patients and protected, then the genetic material in the form of DNA was extracted and the genotyping of single nucleotide polymorphisms (SNP) was performed using the TaqMan probes.

Results: We detected rs2283265 and rs1076560 genetic variants of the DRD2 gene determining more frequent presence of dementia and higher patients' scores in the II and III part of the UPDRS (p < 0,05). Furthermore, they do not affect the presence of the levodopa treatment complications and the need of deep brain stimulation in the patients diagnosed with Parkinson's disease (p > 0,05). We have also detected that the genetic variants of rs1799836 of the MAOB gene and rs921451 of the DDC gene do not affect the clinical course of Parkinson's disease and the effects of levodopa treatment in diagnosed patients (p > 0,05).

Conclusions: We believe that genetic sequencing may in future serve as an tool to assess the future course of PD.

Hematocrit and hemoglobin levels in patients with acute cerebral infarction.

Author(s): Alīna Puzanova, Valērija Raubiško Rīga Stradiņš University, Latvia Presenting author: Alīna Puzanova Tutor(s): Iveta Haritoncenko

Introduction

In patients with cerebral infarction anemia frequently is a comorbid or complicating factor. However the association between hemoglobin levels and stroke outcome is still uncertain (Sharma et. al. 2018). In recent studies it has been found that anemia seems to be related with the clinical outcome in patients with cerebral infarction. Also it has been suggested that anemia might be an independent risk factor for stroke development (Akpinar et.al. 2017).

Aim

The aim of the study was to evaluate the relationship between acute cerebral infarction severity and the extent of neurological deficit and hematocrit and hemoglobin levels at the admission.

Met hods

A retrospective study was performed in Riga East Clinical University hospital. A total of 185 patients with acute cerebral infarction was enrolled in this study who underwent complete blood count analysis, including hematocrit and hemoglobin assay at the admission and were assessed by NIHSS and mRS scales. Patients history, complete blood count analysis, neurological assessment, clinical examination was collected. Data were processed and analysed using non-parametric methods with IBM SPSS 22.0.

Results

Out of all 185 patients. The age group from 33 to 99 years with median age 76. Median hemoglobin level was 13.7 g/dL and the median hematocrit level was 41.0%. All of the patients assessed by NIHSS scales were devided by neurological deficiencylevel in 5 groups. Out of 185 patients the first group had 3 patients with no neurological defficiency, seconds group 39 patients with minor, third group had 102 patients with moderate, fourth group had 36 patients with moderate/severe and fifth group had 5 patients with severe neurological defficiency.

In patients from the first to the fourth group the most common hematocrit level range was 39.0-49.9%; in the fifth group the most common hematocrit level range was less than 39.0%.

Patients from the second to the fifth group the most common hemoglobin level range was more than 14 g/dL. In the first group the most common hemoglobin level range was more than 14 g/dL.

The statistically significant difference between NIHSS level and hematocrit or hemoglobin level has not been found.

Conclusion

The results of the study show that the hematocrit and hemoglobin levels are not associated with stroke severity and the extent of neurological deficiency. But these results might be influenced by other factors. There were no exclusion criteria in this study based on other health conditions that could possibly influence the results. Further studies are needed.

No evidence of disease activity among relapsing remitting multiple sclerosis patients in Riga East University Hospital

Author(s): Violeta Žukova Rīga Stradiņš University, Latvia Presenting author: Violeta Žukova Tutor(s): Daina Pastare

Introduction - Multiple sclerosis (MS) is autoimmune-mediated disease of the central nervous system characterized by chronic inflammation, demyelination, gliosis and neuronal loss. MS leads to severe physical and cognitive problems in young adults. Approximately 87% of MS patients present with relapsing remitting MS (RRMS), characterized by acute attacks (relapses) followed by partial or full recovery (remission). Immunomodulating therapy (IMT) is used to decrease frequency and severity of relapses and slow progression of MS. Nowadays "No evidence of disease activity" (NEDA) is a potential treatment target in patients with RRMS. Patients meeting NEDA3 criteria have no relapses, no progression of disability (measured by Expanded Disability Status Scale - EDSS) and no new or active (enhancing) demyelinating lesions on magnetic resonance imaging (MRI).

Aim - To investigate the NEDA status among RRMS patients receiving IMT in Riga East University Hospital "Gailezers" in time period from 2017 till 2019.

Matherials and methods - It is a quantitative, cross-sectional study. Our study included Riga East University Hospital "Gailezers" RRMS patients who have started IMT in time period from 2010 to 2018. All included patients received two MRI scans in time period from 2017 till 2019. A time period between two MRI scans was longer than 12 months, but shorter than 24 months.

Results - Totally 84 patients were included in the study - 49 women (58.3%) and 35 men (41.7%). 74 patients (88.1%) have cerebrospinal form of MS, 10 patients (11.9%) - cerebral form of MS. At baseline median EDSS score among patients was 2.0 (range - 1.0 - 6.5), median duration of MS was 3 years (range - 0 - 8). A total of 30 patients (35.7%) met NEDA3 criteria at one year. 18 of these patients (60.0%) were women, 12 patients (40.0%) were men. 26 patients (86.7%) have cerebrospinal form of MS, 4 patients (13.3%) - cerebral form of MS. Median duration of MS among these patients was 3 years, median EDSS score - 2. 25 patients did not changed their IMT in this time period - 8 patients (32.0%) recieved glatiramer acetate, 6 patients (24.0%) - dimethyl fumarate, 7 patients (28.0%) - interferon beta-1a, 4 patients (16.0%)

recieved teriflunomide. 5 patients changed their IMT in time period between 2 MRI scans. Among patients who did not met NEDA3 criteria were 31 women (57.4%) and 23 men (42.6%). 48 patients (88.9%) have cerebrospinal form of MS, 6 patients (11.1%) - cerebral form of MS. Median duration of MS among these patients was 1.5 years, median EDSS score - 2. There was a statistically significant relationship between length of disease and NEDA status (p = 0.032).

Conclusions - IMT can not stop MS progression among majority of MS patients despite its effectiveness - only 35.7% of patients

met NEDA3 criteria. 64.3% of patients had clinical or radiological MS progression despite an IMT. There was a statistically significant relationship between length of disease and NEDA status.

Profile of patients presenting with acute seizures: is alcohol-related seizures a big problem in Lithuania?

Author(s): Martyna Jauniškytė Vilnius University, Lithuania Presenting author: Martyna Jauniškytė Tutor(s): Robertas Badaras

Introduction: Seizure is a common manifestation of the many neurological conditions faced in emergency department (ED). Alcohol overuse may induce epileptic seizures and the frequency of alcohol- related seizures (A-RS) is remarkably high: 1/3 seizure-related admissions.

Aim of the study: to explore the prevalence and characteristics of A-RS in Lithuanian population.

Material and methods: a retrospective study in Republican Vilnius University Hospital were conducted. Patients admitted to ED with codes G40-G41 (epilepsy and status epilepticus) and R56.8 (other unspecified convulsions) between February 2019 and October 2019 were registered in a database. We used (ICD-10-AM/ACHI/ACS) for diseases' classification. Alcohol related codes: F10 (mental and behavioural disorders due to alcohol use) and T51.0 (toxic effect of ethyl alcohol) were also registered. We collected demographic and clinical characteristics of the patients. The data were analysed using IBM SPSS Statistics 23.0.

Results: 550 patients admitted to ED with seizures were included in the present study. Age: 49.6 ± 16 y., male 73,1 %, 77 patients (14%) were hospitalised. A total of 273 (49,6%) A-RS were reported, of which 201 (73,6%) had an F10 or T51.0 diagnosis according to ICD-10-AM and 72 (26.4%) reported alcohol use only from history taking. The concurrent seizures' risk factors: pre-existing epilepsy, head trauma, stroke, history of brain tumours had: 222 (40,4%), 111 (20,2%), 44 (8%), 24 (4,4%) patients, respectively. New-onset seizures were reported in 145 patients (26,4%), 127 (23%) patients had a history of A-RS.

More patients in the A-RS group were male: 230 (84,2%) vs 172 (62,1%), P<0,001 and were significantly younger: $45,5\pm12$ vs $53,6\pm19$, P<0,001 compared to non-alcohol-seizures group. Stroke: 3 (1,1%) vs 41 (14,8%) P<0,001) and history of brain tumours: 1 (0,4%) vs 23 (8,4%) P<0,001) were less common in A-RS. New-onset seizures were more frequently reported in patients with A-RS: 89 (59,3%) vs 56 (40,7%)

p<0,001. Mean diazepam dose was significantly higher in A-RS group: $15,9\pm,12$ vs $13,6\pm 8$ mg, P=0,032. Tongue biting: 57 (20,9%) vs 22 (7,9%), N=79, P<0,001; higher mean MCV: 97,1 (N=163) vs 92,6 fl (N=200), P<0,001; ALT: 69,4 (N=87) vs 32,1 U/I (N=91), P<0,001 blood values were also more commonly observed in A-RS group.

Conclusions: alcohol-related seizures is a big problem in Lithuania, while approximately half of patients had seizures related with alcohol overuse. They were more likely to bite the tongue and needed higher diazepam dose at admission.

Impact of time and stroke location on patients' outcome when mechanical thrombectomy is performed in the posterior circulation

Author(s): Eimantas Dumskis Vilnius University, Lithuania Presenting author: Eimantas Dumskis Tutor(s): Marius Kurminas

Introduction

Posterior circulation strokes represent approximately 20% of all ischemic strokes. In clinical practice, not all posterior circulation stroke presentations are classic and have good results despite successful recanalization. Aim of the study

Asses the impact on the outcome of patients treated with mechanical thrombectomy of two factors: the time from symptoms to recanalization, and the location of posterior circulation stroke.

Material and methods

A retrospective study in Vilnius University Santaros Clinics was conducted. Patients involved in this study were were admitted to the ED with stroke symptoms between July of 2015 and October of 2019. In this study, the selected location was either the basilar artery, or P1-P2 segments of the posterior cerebral artery. When dividing patients into time groups, a 300 minute mark was used - whether the recanalization was in less or more than 300 minutes. Their outcome was measured by mTICI after the mechanical thrombectomy, as well as by NIHSS and modified Rankin Scale upon discharge. The data was analyzed by using IBM SPSS Statistics 23.0.

Results

44 patients with posterior circulation ischemic stroke were included in this study. Their average age was $72,06 \pm 9,07$. There were 52,3% women and 47,7% males. In the basilar artery group, there were 25 patients (56,82%) and in the P1-P2 group - 19 patients (43,18%). In time groups, in less than 300 minutes (22 patients, 50%) and in more than 300 minutes (22 patients, 50%). Considering the outcome, 22 patients (50%) had a bad outcome, and 22 (50%) had a satisfactory outcome.

None of the groups had statistical significance. In the basilar artery group between

time and outcome p=0.302. P1-P2 group had p=0.08. In time groups, less than 300 minutes p=0.68. More than 300 minutes p=0.329. In the bad outcome group p=0.193 and satisfactory group had p=1.000.

Conclusion

Despite quick management and good signs of successful recanalization in patients with ischemic stroke in the posterior circulation outcomes may vary considerably. There was no significant correlation between time, location of the ischemia and patients' outcome. It is important to note that vascular anatomical variation may affect stroke severity, presenting signs and symptoms. Therefore, a detailed clinical history, evaluation of risk factors, and thorough examination in patients with posterior circulation ischemia symptomatology is paramount in order to achieve the best possible results.

Perceived trigger and inhibiting factors of seizures in people with epilepsy

Author(s): Dovilė Streckytė, Gabrielė Pociuvienė Vilnius University, Lithuania Presenting author: Dovilė Streckytė Tutor(s): Ruta Mameniskiene

Introduction. Perceived provocative and inhibiting seizure factors can be helpful for seizure control. To our knowledge, no study to date has established an electroencephalogram (EEG) based link between precipitant factors and seizures neither have the predictive value of subjective reports been objectively demonstrated.

Aim. The study aimed to determine seizure precipitating and inhibiting factors and evaluate the link between self-awareness and epileptiform activity on EEG while performing standard and cognitive tests.

Methods. Ninety patients (50% - women, 72.2% had focal epilepsy, age 38.4 ± 16.6 years; mean duration of epilepsy - 9.5 ± 10.6 years) with epilepsy completed a comprehensive questionnaire on different factors that can have a triggering or suppressing effect on their seizures. Later EEGs were registered using standard (hyperventilation, intermittent photic stimulation (IPS), eyes open-eyes closed test) and cognitive (reading in a native and unknown language, solving a Rubik's cube and crossing out letters) tests. Subjective (questionnaires) and objective (EEG) data were coded as having provocative, suppressive or no effect on epileptiform brain activity (EA) and compared. MS Excel and IBM SPSS 21.0 were used for data analysis. Statistical significance was assumed at p<0.05.

Results . 83,3% of patients reported at least one seizure facilitating or triggering factor: as triggering mental stress (18,7%), sleep deprivation (17,3%), negative feelings (14,7%), loud noise (10,7%), alcohol intake (10,7%); as facilitating - sleep deprivation (41,3%), mental stress (37,3%), negative feelings (29,3%), flickering lights (20%), alcohol intake (18,7%). Women more often reported mental calculation, striped patterns, flickering light and unexpected noise (p<0,05) and those with generalized epilepsy (GE) indicated flickering light (p=0,036) as seizure provoking. 43,3% indicated to have at least one seizure-inhibiting factor: positive feeling (15,6%), thinking or concentrating (15,6%), the mental calculation (10%). Patients with GE more often reported specific memories and specific thought tasks (p<0,05) as seizure inhibiting. Weak or no correlation between subjective and objective data was found (R<0,2). Subjective opinions on hyperventilation, lightning and cognitive tasks were independent of EA changes on EEG during these tasks (p>0,05).

Conclusion . Based on our study we conclude that many people with epilepsy believe that their seizures may be triggered or inhibited by some factors. However, EEG with standard and cognitive tests showed no statistically significant correlation.

Epilepsy stigma in Lithuania

Author(s): Gabrielė Pociuvienė, Dovilė Streckytė Vilnius University, Lithuania Presenting author: Gabrielė Pociuvienė Tutor(s): Ruta Mameniskiene

Introduction. As much as 50 million people worldwide have epilepsy, which makes it one of the most common neurological diseases, that has been stigmatized since before 4000 years ago and is still surrounded by stigma today. For this and also to our knowledge for lack of stigma evaluation in Lithuania, we deemed this study topic to be very relevant.

Aim of the study. The study aimed to evaluate the severity of epilepsy stigmatization in Lithuania 's general population.

Material and methods. The study sample consisted of 180 healthy participants (72,2 % - women, mean age 42.7 ± 14.8), who all completed newly developed questionnaire in several public institutions. Our questionnaire composed of 8 socio-demographic and 20 close-ended questions designed to assess epilepsy stigma. Stigma level was calculated by scoring the aforementioned 20 questions, higher score number indicating stronger stigmatization level. Statistical analysis was conducted using MS Excel and SPSS 21.0. Statistical significance was assumed at p < 0.05.

Results . 95,6 % of respondents indicated having heard or read about epilepsy. 54,4 % indicated not personally knowing anyone with epilepsy. 59,4 % reported having seen a seizure at least once in their lifetime. 29,4 % indicated believing that people with epilepsy (PWE) are treated differently in society, although 73,9 % thought PWE encounter difficulties in the occupational field and 57,3 % would be worried if their relative lived with a PWE. 21,2 % reported that epilepsy is a psychiatric disorder, 22,8 % thought that epilepsy cannot be controlled and 66,1 % - that epilepsy cannot be cured. Mean epilepsy stigma score was 23,2 \pm 8, which equals 43 \pm 14,8 on a scale from 0 (no stigma) to 100 (strongest stigma). We found that if respondents knew something about epilepsy they more often thought of epilepsy as an incurable sickness (p = 0,027). The belief that epilepsy is a psychiatric illness was found to have a link with overall higher stigma scores (p < 0,05). Having the mentioned link with higher epilepsy stigma scores were also respondents' beliefs that society views and treats PWE differently (p < 0,05); that PWE are more often dependent on other people (p < 0,05) and encounter prejudice (p < 0,05).

Conclusions.

Healthy Lithuanians still tend to stigmatize people with epilepsy, despite all their education efforts.

Computational analysis of perihemorrhagic area of intracerebral haemorrhage - association with outcome and risk of expansion.

Author(s): Miłosz Błoński Jagiellonian University Medical College, Poland Presenting author: Miłosz Błoński Tutor(s): Roger Krzyżewski, Borys Kwinta Kornelia Kliś

Introduction: Computational analysis of intracerebral haemorrhage (ICH) was showed to be useful in determining treatment outcome and risk of its expansion. However, due to our knowledge, most analysis is applied to hematoma mass, neglecting its surroundings.

Aim of the study: To determine whether quantitative analysis of perihemorrhagic density can be associated with outcome and ICH expansion.

Material and methods: We retrospectively analysed 60 patients with spontaneous supratentorial ICH. For each patient we obtained their head CT and perform series of image transformation to obtain exact contour of ICH. Then, we extracted circular area around contour, with circle centre in its centroid and perimeter equal to distance between two furthest point on contour. For such area, we calculated four moments of a distribution: standard deviation (SD), coefficient of variance (CoV, variance/mean), skewness (S, third moment) and kurtosis (K, fourth moment). We additionally obtained patients' medical history from their medical records. Upon admission patients were assessed using Glasgow Coma Scale (GCS) and upon discharge using Glasgow Outcome Scale (GOS). ICH expansion was defined as any increase in ICH volume on control CT. Poor outcome was defined as GOS < 3.

Results: A total of 34 (56.67%) patients had poor treatment outcome and 15 (25%) had ICH expansion. We found that patients with poor outcome had significantly lower GCS upon admission (4.97 \pm 3.24 vs. 10.84 \pm 4.52; p < 0.01) and were significantly older (69.18 \pm 12.56 vs. 55.58 \pm 17.91; p < 0.01). We also found that they had significantly higher SD (32.18 \pm 9.70 vs. 27 \pm 9.04; p = 0.039), CoV (8.43 \pm 4.62 vs. 5.36 \pm 3.16; p < 0.01) and S (0.16 \pm 0.84 vs. -0.25 \pm 0.67; p = 0.045). We additionally found that patients with ICH expansion had higher SD (34.87 \pm 11.37 vs. 28.29 \pm 8.59; p = 0.021) and CoV (9.6 \pm 5.6 vs. 6.27 \pm 3.46; p < 0.01) and lower K (-0.61 \pm 0.72 vs. -0.07 \pm 0.86; p = 0.034). In multivariate logistic regression analysis, after adjustment for all possible confounders higher CoV (OR: 1.711; 95% CI: 1.113 - 3.289; p = 0.048) and age (OR: 1.103; 95% CI:1.024 - 1.229; p = 0.03) and lower GCS (OR: 0.691; 95% CI: 0.513 - 0.852; p < 0.01) remained independently associated with higher risk of poor treatment outcome. Lower K (OR: 0.382; 95% CI: 0.132 - 0.879; p = 0.042) was independently associated with higher risk of ICH expansion.

Conclusions: Computational analysis of perihemorrhagic density can be useful in determining outcome and risk of ICH expansion.

The number of endothelial progenitor cells in the blood serum and their potential relationships with the clinical condition, radiological image and prognosis in patients with the acute phase of stroke caused by cerebral microangiopathy.

Author(s): Karolina Filipska, Adam Wiśniewski Collegium Medicum in Bydgoszcz, Poland Nicolaus Copernicus University in Torun, Poland Presenting author: Karolina Filipska Tutor(s): Robert Ślusarz

Introduction: Endothelial progenitor cells (EPC) are a recognized marker of both the degree of endothelial damage and the ability to regenerate the endothelium. Thanks to the mediators, such as VEGF (vascular endothelial growth factor), SDF-1 (stromal-derived factor), and G-CSF (granulocyte-colony stimulating factor), they migrate to damaged areas of the brain affected by ischemia where they play an important role in the regeneration of the nervous tissue, glial cell nutrition, reduction of neuronal apoptosis, blood-brain barrier stabilization and are a substrate in postnatal angiogenesis, especially in neovascularization of blood vessels damaged by ischemia.

Purpose: The aim of the study was to assess the number of EPC in the blood serum and their potential relationships with the clinical condition, radiological image and prognosis in patients with the acute phase of stroke caused by cerebral microangiopathy.

Material and methods: 66 patients with lacunar ischemic stroke were included in the prospective study, 38 patients with the "loco typico" haemorrhagic stroke and 22 subjects from the control group without acute/chronic cerebral circulatory disorders. The number of EPC was determined on the first and eight day after stroke onset using flow cytometry and identified with the immune-phenotype CD45-, CD34+, CD133+.

Results: We demonstrated a significantly higher number of EPC on the first day of stroke (regardless of etiology) compared to the control group (med. 17,75 cells/ul (0-488 cells/ul) vs 5,24 cells/ul (0-95 cells/ul); p=0.0006). We did not reported a relationship between the number of EPC in the acute phase of stroke and biochemical parameters, vascular risk factors as well as clinical and functional status. The EPC number on day 1 and 8 was correlated with the subgroup of patients with haemorrhagic stroke. A significant correlation was found between the volume of the haemorrhagic focus on the first day and the number of EPC on the first day (R=-0.3378, p=0.0471) and the number of EPC on the first day of the haemorrhagic stroke and the degree of regression of the haemorrhagic focus (R=-0.3896, p=0.0367).

Conclusions: The study showed that endothelial progenitor cells are an early marker of cerebral vascular damage, however, their prognostic value was not found in stroke patients.

Not only pills! Complementary and alternative medicine for the treatment of paediatric epilepsy.

Author(s): Marta Gromada, Barbara Nowacka Wojciech Dudek Medical University of Silesia, Poland Presenting author: Marta Gromada Tutor(s): Justyna Paprocka

Introduction: Complementary and alternative medicine (CAM) in the field of paediatric epilepsy doesn't rank as popular way of treatment. Patients are eager to apply to common therapy, rather than testing unknown, unconventional drugs and treatments. Unfortunately huge number of epileptics suffer from drug resistant or idiopathic form of the disease; these are the cases, in which traditional medicine frequently appear as useless and patients feel constrained to look for efficient solution.

Material and methods: The idea of our research was to inspect the influence of CAM on therapy of epilepsy - ridden children with evaluation of pattern use, primary reasons and opinions.

Aim: The trial was consisted of online survey, aimed at parents of children suffering from epilepsy, directly these ones, who decided to use the alternative methods in theirs' children therapy. Authorial questionnaire, including 41 questions, was shared on many online groups, associating parents of diseased children. Survey was anonymous and the questions was constructed mainly about characteristic and types of epilepsy syndrome, previous treatment, presumed alternative therapies and the view of parents about non - standard approach to epilepsy medication. Research took place between November 2019 and January 2020.

Results: Ninety-four parents completed the online survey. The majority (67%) of the parents participating in the study had a higher education. Results were concerning 36% of girls and 64% of boys, most of them (69%) with or under the age of 10. The most commonly used complementary and alternative medicine were: dietary supplements, cannabinoids and herbal medicine. Opinion of effectiveness of the CAM used by the patients compared to use of AEDs was described as effective in 94% of those without AED and 66% with those receiving at least one AED; the differences of opinions were significant (P < 0.001). Among respondents, 13.8% reported adverse effects of CAM therapies: higher frequency of seizure attacks, cardiovascular effects and constipations. Of those who used CAM, 73% discussed it with their child's pediatricians or neurologist.

Conclusions: According to the results of our study it has to be assumed that most of the epilepsy - ridden childrens' parents decided to use not only one, but several types of treatment, including conventional methods and CAM. Noticed adverse effects and unspecified effectiveness of CAM induces to careful selection of complementary treatment with necessity of medical consultation before choosing it.

Prevalence and anatomical characteristics of developmental venous anomalies

Author(s): Karolina Brzegowy, Natalia Kowalska Tomasz Kasprzycki Jagiellonian University Medical College, Poland Presenting author: Karolina Brzegowy Tutor(s): Agata Musiał, Jerzy A. Walocha

Introduction: Developmental venous anomalies (DVA), previously referred to as venous angiomas, are currently considered to be extreme anatomical variations of medullary veins; usually they follow a benign course. DVAs are often observed incidentally during routine diagnostic imaging procedures. Their coexistence with cavernous malformations (CM), which carry the risk of bleeding, has been reported in literature.

Purpose: The aim of this study was to assess the prevalence of DVAs in adult Polish population and their coexistence with CMs using magnetic resonance (MRI) studies.

Material and methods: A total of 6948 head MRIs (4700 women and 2248 men) were analysed to determine the number and location of DVAs. The termination of the collecting vein was also evaluated. Any hyperintensity in the area adjacent to DVAs in T2-weighted FLAIR images was noted. The prevalence of CMs in patients with DVAs was assessed.

Results: At least one DVA was identified in 7,64% of the study group (531 patients). The prevalence was similar in both men (7,92%) and women (7,51%) (p=0,56). DVAs were usually present on the right side (54,26%) (p=0,33). They were more commonly supratentorial (73,12%) and were most frequently identified in the frontal lobe (36,39%). The collecting vein usually drained into the superficial cerebral veins (35,89%). Multiple DVAs were observed in 11% of the patients with DVAs. In 5,18% of the heads with DVAs hyperintensity in T2-weighted FLAIR images was observed. A total of 3,67% patients with DVA also had a CM in the vicinity of the DVA.

Conclusions: Knowledge about anatomical characteristics of DVAs is of significant interest for neurosurgeons and may aid in preoperative planning. DVAs alone are responsible for blood outflow from certain brain areas and thus should be preserved during operations. Large number of currently available diagnostic head studies enables us to assess DVAs on a great number of subjects.

The therapeutic value of ACTH in severe cases of myasthenia gravis

Author(s): Jerzy Król Jagiellonian University Medical College, Poland Presenting author: Jerzy Król Tutor(s): Ewa Mańko

Background

Myasthenia Gravis (MG) is an autoimmune disease caused by antibodies against postsynaptic acetylcholine receptors at the neuromuscular junction of the skeletal muscles. To the best of medical knowledge there are no drugs able to cure MG. Although among current immunomodulating therapies there are no longer place for adrenocorticotropin (ACTH) our study reveals results of use of ACTH in clinical ward.

Aim of the study

The aim of the study was to evaluate the effectiveness of ACTH among patients with MG treated initially with anticholinoesterase drugs.

Methods

31 patients: 23 women and 8 men with severe generalized MG were qualified to be treated with ACTH. 18 patients were 15 to 35 years of age, 13 were 40 to 70 years. All had been previously treated with anticholinoesterase drugs for 1 to 3 years with no improvement. In 25 patients thymectomy had been performed, 6 patients were not operated. 15 patients had hypetrophy of thymus, 10 thymoma. Osserman's classification was applied: IIB - 7 patients, III - 17 patients, IV - 7 patients. In 24 patients the duration of illness was shorter than 5 years whether in 7 patients was 6 - 20 years. To assess the effectiveness of treatment 0 to 5 points scale of efficiency of limb, swallowing and breathing muscles was implemented before and after ACTH administration. We considered essential the improvement lasted at least two years after a treatment had been completed.

Results

The effect of ACTH was noted in 83,9% of all patients: 61,3% good + very good (period of improvement 2-8 years); 22,6% moderate (period of improvement 2-5 years) In the thymectomy group the effect of drug was noted in 92% (64% good + very good; 28% moderate) of cases whether in no thymectomy group only in 50% (50% good + very good; 0% moderate). In 100% of patients with hypertrophy the effect was observed (73,3% good + very good; 26,7% moderate). In 80% of patients with thymoma the effect was present (50% good + very good; 30% moderate). Depending on clinical form the effect was noted in: IIB 85,7% (71,4% good + very good; 14,3% moderate); III 76,5% (47,1% good + very good; 29,4% moderate); IV 100% (85,7%% good + very good; 14,3% moderate). Depending on duration of illness ACTH effects in: 1 - 5 years: 83,3% (58,3% good + very good; 25% moderate); 6 - 20 years: 85,7% (71,4% good + very good; 14,3% moderate).

Conclusions

It seems that in severe MG is necessary to administer ACTH for a long period of time. The effectiveness was observed mainly after thymectomy. The full scope of activity of ACTH is the result of its stimulation of the secretion of cortisol and through its function as neurohormone. It is probable that ineffectiveness of ACTH treatment in patients without thymectomy was the result of the inhibitory action of thymus on the effects of cortisol itself. Although ACTH has been replaced by other more effective drugs such as cortisol itself, this study presented advantages of using it.

Beyond motor symptoms: additional integral part of parkinsonism? Comperative analysis of Parkinson's Disease and Atypical Parkinsonisms.

Author(s): Sofija Antoniuk , Klaudia Adamczewska Anna Grażyńska Medical University of Silesia, Poland Presenting author: Sofija Antoniuk Tutor(s): Joanna Siuda

Beyond motor symptoms: additional integral part of parkinsonism? Comperative analysis of Parkinson's Disease and Atypical Parkinsonisms .

Motor symptoms are the most recognizable symptoms for all types of parkinsonisms, however recently the importance of non-motor symptoms (NMS) has been emphasized, especially since they can manifest can years before underlying disease.

The aim of the study was examining the differences between occurrence of NMS in patients with Idiopathic Parkinson's Disease (IPD) and atypical parkinsonisms (AP).

323 patients hospitalized in Department of Neurology of University Clinical Centre in Katowice in 2016-2019 were included in the study. 279 patients were diagnosed with IPD and 44 with AP. NMS were assessed using history charts and NMS-Quest. UPDRS part III and Hoehn-Yahr scale (HY) were used for evaluation of clinical advancement. Statistical analysis was conducted using Statistica.

NMS were presented by 200 patients with IPD (71.7%) and 41 with AP (93.2%, p=0.003). Sleep disorders were more common for IPD than AP (48.0%, p=0.002). There were no statistically significant differences in the parameters of age, sex, autonomic and psychiatric disorders. Mean age of disease for AP was higher (60.3, p=0.0047). Mean span of disease was lower for AP (5.2, p<0.001). AP showed worse results in cognitive tests (MMSE: 22.4, p<0.001; CDT: 5.67, p<0.001). Results for Both HY and UPDRS III OFF were worse for AP (HY: 2.95, p=0.047; UPDRS III OFF: 42.2, p<0.01). Mean of UPDRS III ON was higher for AP (37.4, p<0.001). IPD took a significantly higher dose of L-dopa (779.7, p=0.009).

NMS are often present in both IPD and AP and that makes them an integral part of both of these clinical conditions. AP are more prone to present most of autonomic disorder, however sleep disorders are more common in IPD.

The involvement of humanin in development of Parkinson disease

Author(s): Szymon Urban, Barbara Zapała Olaf Chmura, Jan Koper Jagiellonian University Medical College, Poland Presenting author: Szymon Urban Tutor(s): Barbara Zapała

Introduction:

Humanin (HN) was first identified in the brain of a patient diagnosed with Alzheimer's disease (AD). This 24-amino acids peptide was shown to suppress the neuronal cell loss caused by amyloid-beta (Aß) and by amyloid precursor protein (APP) mutations associated with early-onset familial Alzheimer's disease (FAD). Recent studies revealed that HN activity is not confined only to neurons but it involves also other compartments of the brain as well as extraneural tissues. These results suggest that HNs may influence other neurodegenerative disorders such as Parkinson's disease (PD).

Aim:

The main aim of the research is to assess the humamin on the Parkinson Disease

Material and Methods:

DNA was isolated from peripheral blood from 214 patients with diagnosed PD and 193 healthy adult individuals. Genotyping was performed on the 3130xl Genetic Analyzer (Applied Biosystems).

Results:

We have genotyped the not-known polymorphic variants of 13Thr- and 13Ile-HN10b (with threonine or isoleucine in amino acid position 13), encoded by HN gene in PD- diagnosed patients. Genotyping results have not shown any significant association between identified 13Thr- and 13Ile-HN10b polymorphic variants (38C>T) and the prevalence of Parkinson's disease. However, we have demonstrated a higher frequency of C/T and C/C genotypes in comparison to T/T in a patient with dementia (MMSE). A similar relation was observed in patients with more severe symptoms of PD progression (basing on Hoehn and Yahr as well as UPDRS rating scale).

Conclusion:

This is the first report regarding the humanin in Parkinson Disease. Our results suggest that 13Thr- and 13Ile-HN10b polymorphic variants (38C>T) are not associated with the development of PD. However, we can speculate that T/T genotype could be considered as a protective factor during the development of symptoms of PD.

Oncology and Hematology



Coordinators: Martyna Lewicka, Adrianna Bartosik,

Jury: dr hab. n. med. Hanna Romańska-Knight, prof. dr hab. n. med. Wojciech Młynarski,

Cepharanthine induces the cytotoxicity among Glioblastoma Multiforme via the induction of ROS-stress

Author(s): Wojciech Szlasa, Karolina Cierluk Joanna Rossowska, Mounir Tarek Wrocław Medical University, Poland Presenting author: Wojciech Szlasa Tutor(s): Julita Kulbacka, Jolanta Saczko

Introduction

Glioblastoma multiforme (GBM) is the fourth-grade malignancy tumour, characterized by the high dependence on the inflammatory process. Even though many clinical trials are carried out, currently, there are no fully effective therapies. One of the most promising drugs with anti-glioma potency seems to be cepharanthine, due to its anti-inflammatory and anti-neoplastic properties.

Aim of the study

The study aimed to evaluate the potency of cepharanthine on GBM and describe a detailed way in which the compound acts among cancer.

Materials and methods

The in vitro studies were carried on the SNB-19 - GBM cell line and PC-12 stimulated with NGF as the control cell line, representing neurons. The viability of both cell lines was assessed with the MTT assay. T-type calcium and VDAC-1 mitochondrial channels were stained with the immunocytochemical method. Additionally, fluorescent labelling of reactive oxygen species, as well as identification of cell death type was performed. To understand the molecular mechanism of cepharanthine action, the molecular dynamics studies of VDAC-1 with cepharanthine under varying transmembrane voltage was assessed. Afterwards, the conformational changes in VDAC-1 have been analyzed as well.

Results

Cepharanthine decreases the viability of the SNB-19 cells in micromolar concentrations (IC50 = 4.38uM in 72H incubation time), thus showing the high potency against glioma. The mechanism of cepharanthine action in the cell involves the upregulation of T-type calcium ion channel and VDAC-1 in the cells. The effects also lead to the induction of ROS stress. The molecular dynamics studies revealed that cepharanthine interacts with VDAC-1 channel by fixing the pore size in the "closed state" (about 0.4nm) thus leading the ROS cytoplasmic release and calcium mitochondrial overload.

Conclusions

Cepharanthine could be considered as the potent chemotherapeutic agent against GBM. The molecular action of the compound involves the ROS stress induction, apoptosis and the upregulation of VDAC-1 as well as T-type calcium channel.

One-year incidence of multiple hematologic malignancies

Author(s): Lukas Kevličius Vilnius University, Lithuania Presenting author: Lukas Kevličius Tutor(s): Ugnius Mickys, Ugne Ringeleviciute

Introduction. Limited epidemiologic and clinical data exist regarding patients who develop multiple unrelated hematologic malignancies.

Aim of the study. To determine the incidence, risk factors and treatment options of two or more hematologic malignancies in the same patient, diagnosed at National Center of Pathology (Vilnius, Lithuania) in 2017.

Materials and methods. Bone marrow biopsy records of year 2017 were examined using National Center of Pathology biopsy report database. The following data were collected: age, gender, number of hematologic malignancies, diagnoses according to 2017 WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues, primary/secondary diagnosis, HIV/HCV/HBV status, solid organ transplantation, autoimmune disorders and coexisting solid tumours. Patients who had more than one hematologic malignancy were further investigated, determining time at first and second diagnoses, past and current treatments and their clinical status two years after the diagnosis. Therapy-related myeloid neoplasms were excluded.

Results. A total of 1268 bone marrow biopsy reports were analyzed. 555 solitary primary hematologic neoplasms were found and 13 patients (10 women and 3 men) had multiple malignancies. The age of aforementioned patients ranged from 52 to 89 years (median 74 years). Seven cases were diagnosed synchronously and for six patients the diagnosis of first neoplasm was made at least 2

years prior. One patient had 3 tumours - myelodysplastic syndrome (MDS) with multilineage dysplasia, lymphoplasmacytic lymphoma with transformation to diffuse large B-cell lymphoma (DLBCL) and systemic mastocytosis (SM). Of the other 24 diagnoses, the most commonly observed tumours were chronic lymphocytic leukemia/small lymphocytic lymphoma (5), JAK2(+) myeloproliferative neoplasms (3 diagnoses of polycythemia vera and one with essential thrombocythemia), monoclonal gammopathy of undetermined significance (3), DLBCL (2), SM (2) and various forms of MDS (2 cases of MDS with excess blasts, one case of MDS with isolated del (5q), one case of MDS with multilinage dysplasia). One patient was diagnosed with rheumathoid arthritis, none had solid tumour diagnoses or HIV/HCV/HBV infections. For 11 patients one or both malignancies appeared to be low-grade and required no to minimal (i.e. hydroxycarbamide for PV) treatment. As of January 2020, two patients died due to aggressive course of their high-grade malignancy.

Conclusions. Multiple hematologic neoplasms in the same patient is a rarely encountered entity, having no clear risk factors. At most instances, at least one of the tumours was of indolent type and had little clinical significance. These observations should be confirmed with further studies.

Metformin increases cancer specific survival in melanoma patientsnational cohort study

Author(s): Julija Rutenbergė Galumbauskienė, Audrius Dulskas Ausvydas Patasius, Giedre Smailyte Vilnius University, Lithuania Presenting author: Julija Rutenbergė Galumbauskienė Tutor(s): Vincas Urbonas

Introduction. Metformin is found to be relevant to the melanoma-specific survival (MSS).

The purpose of our study was to estimate oncological outcomes in melanoma patients with type 2 diabetes mellitus (T2DM) treated with metformin.

Material and methods. The study population initially included 3530 adults with a primary diagnosis of skin melanoma identified from Lithuanian Cancer Registry database between January 1, 2001 and December 31, 2013. Data were linked with National Health Insurance Fund (NHIF) database using unique personal identification numbers. From the analysis we excluded patients with a history of invasive cancers other than melanoma, and

patients with a follow-up duration less than 6 months. Patients with diabetes diagnosis after melanoma diagnosis were also excluded. 2817 melanoma patients were enrolled for analysis. We obtained information regarding age at diagnosis, date of diagnosis, tumour stage, cause and date of death. Information regarding the diagnosis of diabetes and information antidiabetic medication were obtained from NHIF. All included patients were divided into groups with or without diabetes. The group of diabetic patients was further divided into metformin users and metformin non-users. The primary study outcome was MSS. All statistical analyses were carried out using STATA 15 statistical software (StataCorp. 2009. Stata Statistical Software: Release 15.0. College Station, TX, USA).

Results .

Survival analysis by diabetic status and metformin non-user groups, revealed weak evidence of survival difference between groups (p=0.11). In the multivariate analysis after adjustment for gender, age group and stage at diagnosis there was significant risk differences in MSS between non-diabetic patients and diabetic, metformin users - HR - 0.57 (95% CI, 0.36-0.92) (p=0.02). Also significant risk differences in overall survival (OS) between non-diabetic patients and diabetic, metformin users HR - 0.71 (0.52-0.98) (p=0.04) were established. Survival analysis by diabetic status and metformin non-user groups after adjustment showed strong evidence of survival difference between groups (p=0.0003).

Conclusion. Melanoma patients with T2DM using metformin as part of their diabetic therapy have higher MSS compared with non-diabetic melanoma patients. However, further studies are needed to evaluate the anti-cancer effects of metformin in melanoma patients.

Polymorphisms of RFC1 80 G>A, MTHFR 677 C>T and Tandem TS Repeats Influence Pharmacokinetics, Acute Liver Toxicity and Vomiting in Children With Acute Lymphoblastic Leukemia Treated with High Doses of Methotrexate

Author(s): Karol Miklusiak, Przemyslaw Halubiec Agnieszka Lazarczyk, Konrad Stepien Jagiellonian University Medical College, Poland Presenting author: Karol Miklusiak Tutor(s): Szymon Skoczen, Magdalena Cwiklinska Walentyna Balwierz

Introduction: Acute lymphoblastic leukemia (ALL) remains the most prevalent among neoplasms diagnosed in children. High dose methotrexate (HD-Mtx) is highly effective and significantly improve overall patient survival. The pharmacodynamics of Mtx depends on the polymorphism of genes encoding proteins engaged in the folate metabolism pathway.

Purpose: The aim of the current study is to determine the relationship between variants of folate metabolism-related genes and the frequency of acute toxicities of HD-Mtx treatment.

Material and Methods: A group of 133 randomly recruited patients aged 1.5 to 18.1 years (median: 6.3) was treated in accordance with the ALL-IC-2002 (132 patients) and ALL-IC-2009 (1 patient) protocols. The following polymorphisms were determined: 80 G>A SLC19A1 (solute carrier family 19 member 1; rs1051266) with direct DNA sequencing as well as 677 C>T MTHFR (methylenetetrahydrofolate reductase; rs1801133) and the number of tandem repeats of the TS (thymidylate synthase) gene promoter with PCR technique. Based on the obtained results, patients were divided into three groups: the "wild" genotype, heterozygotes and homozygotes. HD-Mtx organ toxicities were evaluated based on the analysis of laboratory tests results and clinical features according to the National Cancer Institute criteria.

Results: Mtx steady state concentrations were distinctly higher in patients with genotypes: AA for SLC19A1 (P=0.013), CT for MTHFR (P=0.005) and 3R/3R for TS (P=0.042). Liver impairment was the most frequently observed organ toxicity. The homozygous genotype was associated with a significantly higher incidence of hepatic toxicity for both the SLC19A1 (P=0.037) and TS (P=0.002). Logistic regression analysis indicated an increased risk of vomiting for the 2R/3R genotype of the TS gene (OR 3.20, 95% CI 1.33-7.68, P=0.009) and for vomiting and hepatic toxicity for the 3R/3R genotype (vomiting: OR 3.39, 95% CI 1.12-10.23, P=0.031; liver toxicity: OR 2.28, 95% CI 1.05-4.95, P=0.038).

Conclusions: Determination of polymorphisms of SLC19A1, MTHFR and TS genes allows for a better prior selection of patients with higher risk of elevated Mtx levels. According to our knowledge, our study is the first one to report the increased risk of hepatotoxicity and vomiting in patients with TS polymorphisms.

Keywords: acute lymphoblastic leukemia, children, genes, polymorphism, methotrexate, pharmacokinetics, toxicity

CYTOMEGALOVIRUS REACTIVATION IN PATIENTS TREATED WITH ALLOGENEIC STEM CELL TRANSPLANTATION

Author(s): Jovana Lina Kessler, Katarina Ivanović University of Belgrade, Serbia Presenting author: Jovana Lina Kessler Tutor(s): Milena Todorović Balint

Introduction: Opportunistic CMV infection is the most common viral complication after allogeneic hematopoietic stem cell transplantation (allo SCT), hence quantitative PCR for CMV DNA is done twice a week in the first 100 days after transplantation and after that in longer periods of time.

Aim: The aim of our study is to evaluate the frequency of CMV reactivation in relation to

the serostatus of the donor and the recipient and the correlation with the day of leukocytes and trombocytes engraftment. We 'll analyze if the frequency of CMV reactivation is greater in myeloablative conditioning (MAC) or reduced intensity conditioning (RIC) and match related donor (MRD) or match unrelated donor (MUD). In the end, we 'll determine if CMV reactivation affects the overall survival (OS) after allo SCT.

Material and methods: In a retrospective cohort study, we inspected 42 patients over 18 years old, who were treated at

The Clinic for Hematology KCS from December 2017. to November 2019. OS of patients compared to treatment was calculated by Kaplan-Meier method and compared with Log Rank test.

Results: Most CMV reactivations were noticed if the recipient was seropositive and the donor was seronegative (R+/D-, 60.0%). Number of CMV DNA copies corelated with the day of engraftment of leukocytes (p=0.031). Frequency of reactivation in patients treated with RIC was 25.0% and 63.5% if they were treated with MAC. The intensity of conditioning regimen corelated with the numer of CMV DNA (p=0.025%). There was no corelation found between MRD/MUD transplantation and CMV reactivation (p=5.15). OS after allo SCT was 36.39 ± 5.30 months. Mean of OS in patients with CMV reactivation was 7.39 ± 0.853 months, but we didn 't prove that CMV reactivation impacted OS (p=0.399).

Conclusion: CMV reactivation is most common in the R+D- group and it doesn't affect the OS after allo SCT.

Keywords: allogeneic hematopoietic stem cell transplantation, CMV reactivation, infection

Assessment of selected haematological indicators in blood of patients with gastric cancer.

Author(s): Anastasia Gabiga, Konrad Dorecki Adrianna Dobroszewska, Kamila Kurkiewicz Medical University of Silesia, Poland Presenting author: Anastasia Gabiga Tutor(s): Robert Partyka

Introduction: One of the important factors of cancer is inflammation. In 1863 Rudolf Virchow was first to illustrate and describe the relationship between inflammation and its influence on initiating the process of carcinogenesis. He found the presence of leukocytes within the structure of malignant tumors. A review of current literature indicates a large interest in chronic inflammation and the formation of cancers, especially of the gastrointestinal tract. The classic, basic indicator of the inflammatory process in the blood is the increase of leukocytes in peripheral blood. Increased levels of neutrophils and a reduction in the number of lymphocytes in peripheral blood has been observed. These observations allowed the introduction of an indicator for the diagnosis of patients, which is the ratio of neutrophils to lymphocytes - NLR. Multicenter studies have demonstrated the usefulness of NLR assessment in patients with various malignancies.

Aim of the study: The aim of the study is to assess the neutrophil to lymphocyte ratio in the blood of patients with confirmed gastric cancer.

Material and methods: The study encompassed 31 patients with histopathologically confirmed adenocarcinoma and mucinous adenocarcinoma of the stomach in the second and third clinical stages. From each patient 2 cm3 of Blood were drawn for testing from a vein in the arm one day before surgery. Peripheral blood morphology was performed by flow cytometry using a semiconductor laser on a Sysmex XN 1000 device, which enables automatic standardized separation of leukocytes into fractions including neutrophils and lymphocytes. The results were statistically processed.

Results: NLR value in examined patients ranged from 1.48 to 27.8 with an average value of 8.88. High NLR values were associated with short life expectancy prognosis of 1-2 years. However, a low NLR index of under 3 characterized patients without recurrent tumorigenesis.

Conclusions: NLR is a useful prognostic for patients with gastric cancer.

Gene fusions and mutations as the molecular events affecting MAPK/ERK pathway in low grade gliomas in children

Author(s): Agnieszka Hajdukiewicz Medical University of Lodz, Poland Presenting author: Agnieszka Hajdukiewicz Tutor(s): Magdalena Zakrzewska

Introduction: M olecular alterations detected in brain tumors of children are becoming increasingly relevant in terms of determining the novel diagnostic tools and future therapeutic strategies. Pediatric low grade gliomas (LGG) are a heterogeneous group of tumors with a limited number of molecular alterations including MAPK/ERK pathway alterations.

Purpose: This study aimed to establish the frequency of molecular alterations including fusion genes and gene mutations related to MAPK/ERK pathway activation in particular histopathological subtypes of LGGs in pediatric patients.

Material and methods: 131 samples derived from children with various subtypes of low grade gliomas (35 pilocytic astrocytomas, 49 gangliogliomas, 34 dysembryoplastic neuroepithelial tumours, 5 desmoplastic infantile gangliogliomas, 7 desmoplastic infantile astrocytomas and 1 mixed PA/DNT) were included in this study. DNA and RNA were extracted from the preserved tumour tissues. ddPCR was used to rate frequency of BRAF and FGFR genes mutations. Nanostring nCounter Technology with nSolver Software was applied to define gene fusions presence (FGFR1-TACC1, KIAA1549-BRAF, FGFR3-TACC3) and Quanta Soft software version 1.7.4 was used to analyze ddPCR results. Final data was computed with Statistica 13. Chi 2 test was performed where appropriate and p value < 0.05 was considered statistically significant.

Results: FGFR3-TACC3 fusions were detected in 13 cases (10% of all samples). One sample showed the FGFR1-TACC1 rearrangement. KIAA1549-BRAF 16:9, 15:10 and 15:9 fusions were found in 35 samples and they constituted 56%, 42% and 3% respectively. The presence of these fusions was significantly correlated with the diagnosis of pilocytic astrocytoma (p=0.0034). Both fusions coexisted in 8 samples, including 4 PAs, 2 DNTs, 1 GG and 1 DIG. BRAFV600E was found in 23 samples and correlated positively with ganglioglioma diagnosis (p<0.0001). FGFR1 kinase domain hotspot mutations (N546K, K654E) were detected. Only one sample showed both FGFR1 mutation and FGFR3-TACC3 fusion.

Conclusions: FGFR3-TACC3 fusions were considerably more prevalent than FGFR1-TACC1. KIAA1549-BRAF was associated with the pilocytic astrocytoma histology. Rarely reported 15:10 fusion gene was found to be the second most common in the analyzed group of tumors. BRAFV600E was detected in 37% of ganglioglioma cases and was significantly correlated with such tumour type. The majority of our findings are in line with previous studies. Detected alterations may be used as diagnostic tools. All of the abovementioned genetic variants are potential targets for personalized therapy.

Blockade of fructose transporter protein GLUT5 inhibits proliferation of colon cancer cells - proof of concept for a new class of anti-tumor therapeutics.

Author(s): Jakub Włodarczyk Medical University of Lodz, Poland Presenting author: Jakub Włodarczyk Tutor(s): Marta Zielińska, Jakub Fichna

Introduction: Colorectal cancer (CRC) is the third most common diagnosed cancer in men (746 000 new cases per year) and the second in women (614 000 new cases per year). Although the improvements in detection and treatment decrease the incidence and death rate, CRC is still a great threat to human health.

Diet is the most important risk factor apart from age, male sex and hereditary factors. Consumption of sugars is increasing worldwide; its association with cancer is still unknown. It has been suggested that high sugar diet may promote carcinogenesis by stimulation of insulin and insulin-like growth factor-I synthesis, induction of oxidative stress or promotion of weight gain. About 10% of the calories contained in the Western diet are supplied by fructose (approximately $55~\mathrm{g/day}$).

Fructose is absorbed from the gastrointestinal tract through the passive transport across cell membranes by members of the glucose transporter family - GLUT. GLUT5 (class II) and GLUT2 (class I) are the major fructose transporters in the body. While GLUT2 is less selective, GLUT5 is the sole transporter specific for fructose with no ability to transport glucose or galactose.

The aim of the study was to assess whether GLUT5 inhibitor, N-[4-(methylsulfonyl)-2-nitrophenyl]-1,3-benzodioxol-5-amine (MSNBA), might decrease proliferation and viability of colon cancer cells.

Material and methods: In order to determine sensitivity of colon cancer cells to GLUT5 inhibitor, HT29 cells (colorectal adenocarcinoma) were exposed to different combinations of 1-1500 μ M MSNBA and 5-10 mM fructose for 24 and 48 h. Cell viability was assessed using the MTT test. Normal cell line CoN (colon epithelial cells) were used to provide cytotoxicity data.

Results: HT29 cells displayed 51% viability after 10 uM MSNBA and 55% viability after 1 uM MSNBA exposure for 24h. Additional presence of 10 mM fructose with MSNBA in the same concentrations did not statistically affect cell viability (respectively, 52 and 54%). After 48h treatment, cell viability remained similar (50% viability - 10 uM MSNBA; 53% viability - 1 uM MSNBA). CoN cells displayed 91% viability after 10 uM MSNBA and 97% viability after 1 uM MSNBA exposure for 42h.

Conclusions: This results suggest that GLUT5 expression in CRC can be indicative of the metabolic requirements and vascular supply of a tumor with clinical implications on patient survival and planning a course of therapy. GLUT5 expression may also be involved in evaluating tumor response to treatments and evaluation of residual disease.

Computational biology analyzes of urothelial carcinoma in terms of TFAP2C and WWOX contribution

Author(s): Moipi Ngaujake, Żaneta Kałuzińska Damian Kołat Medical University of Lodz, Poland Presenting author: Moipi Ngaujake Tutor(s): Elżbieta Płuciennik

Introduction:

Bladder Cancer (BLCA) is a tumor whose incidence has increased in the population by tobacco smoking. Current state of knowledge indicates that one of the genes inactivated by this habit is WW Domain Containing Oxidoreductase (WWOX) and the process explaining such state is hypermethylation of regions corresponding to WWOX exon 1 or promoter. The role of this gene cannot be explained by single process since its activity impacts not only cell cycle or integrity of genome, but more supposedly affects the overall functioning of the cell. This could be explained by WWOX ability to manage multiple transcription factors, in which the Activator Protein 2 (AP-2) family members, specifically AP-2 gamma and AP-2 alpha (encoded by TFAP2C and TFAP2A genes, respectively) are often mentioned. Through evaluating preliminary analyzes using Survival Repository of Gene Expression Profiling Interactive Analysis (GEPIA), we estimated that decrease in mRNA TFAP2C expression level was significantly associated with favorable disease-free survival (DFS) of bladder cancer cohort.

Aim of the study:

The purpose of our research was to collate the interaction of two antagonistically functioning genes using a cohort of bladder cancer patients (acquired from The Cancer Genome Atlas; TCGA) and bioinformatic databases and tools.

Materials and Methods:

GEPIA was used for analyzing correlation between genes. TCGA was used to extract clinical data of BLCA cases together with mRNAseq profiling. Gene Set Enrichment Analysis (GSEA) was conducted using entire database of molecular signatures. 20502 genes were taken into account for enrichment analysis. Using middle cutoff subdivisions we defined two groups determined as WWOX uparrow TFAP2C uparrow and WWOX downarrow TFAP2C uparrow. NETwork-based Gene Enrichment (NET-GE) was used to annotate genes to processes they regulate and indicate their molecular function or localization.

Results:

Data collected through GSEA included gene sets related to canonical pathways, genetic perturbations, biological processes or oncogenic and immunologic characteristics. Subsequently, network-based enrichment was performed on the most contributed genes. Considering the variant with high level of both WWOX and TFAP2C genes, contribution to metabolic processes, gluconeogenesis, adhesion or negative regulation of T cells' activation-induced cell death were proposed. In bladder cancer patients with profile of reduced WWOX but high TFAP2C expression, we observed alteration of numerous signaling pathways (e.g. Ras, MAPK, JAK-STAT, ERBB, PI3K-Akt) but also processes such as angiogenesis or extracellular matrix degradation. Analysis of cellular pathways revealed that eight representatives (IL-1B, IL-3, IL-6, IL-11, EPO, GCG, CSF2, CXCL1) have the greatest impact on signaling machinery.

Conclusions:

To conclude, bioinformatic analyzes revealed that WWOX gene reduction but high TFAP2C level are associated with enhancement of signaling pathways associated with procancerogenic processes.

The role of FOXL2 transcription factor in ovarian cancer - in silico analyses

Author(s): Klaudia Waszczykowska, Karolina Prażanowska Żaneta Kałuzińska Medical University of Lodz, Poland Presenting author: Klaudia Waszczykowska Tutor(s): Elżbieta Płuciennik

Ovarian cancer is one of the most common causes of mortality in women. It is estimated that only less than 47% of patients will be able to survive 5 years after being diagnosed. Lack of satisfactory treatment and biomarkers requires a deeper understanding of the genetic background of this cancer. Thus, we found the gene, which according to COSMIC database, rarely mutates in tumors other than ovary cancer - FOXL2. This gene belongs to forkhead-box family and is involved in regulating cell growth, proliferation, differentiation and longevity. The most commonly observed alteration is amplification of the gene, accounting for 6% of overall serous ovarian cancer cases (according to cBioPortal database).

The purpose of our research was to investigate the influence of FOXL2 gene on biological processes in ovarian cancer via in silico analyses.

To conduct bioinformatics analyses, available repositories and databases were used. Based on data from GEPIA repository, we generated a plot illustrating the correlation between FOXL2 expression in ovarian cancer patients and the time of disease-free survival (p=0.018). To obtain more detailed data about FOXL2 functions in ovarian cancer, we performed gene set enrichment (GSEA) analysis on samples of patients obtained from TCGA database. Subsequently, network-based enrichment analysis (NET-GE) only on selected genes that significantly separated the two groups of patient samples (with low or high expression of FOXL2) was done.

We observed a significant decrease of survival time in patients with high expression of the FOXL2 gene compared to those with low expression. This suggests that high FOXL2 gene expression is disadvantageous for outcome of patients. Significant impact of FOXL2 was also noticed in processes such as promotion of angiogenesis, organization of extracellular matrix (ECM) and response to TGF-beta stimulus, which are of great importance in carcinogenesis. Moreover, we revealed that FOXL2 is associated with expression of UBE2I and SUMO1 genes, which are responsible for controlling protein synthesis and degradation. Additionally, bioinformatics analysis implies that FOXL2 together with PIAS1, SUMO1, WNT4, RSPO1 genes may lead to progression of cancer cells via metastasis and their survival through apoptosis avoidance.

To conclude, our preliminary in silico analyses suggest that high expression of FOXL2 gene has a negative effect on disease-free survival time of patients and is involved in supporting processes such as angiogenesis or disassembly of ECM. These findings indicate that FOXL2 acts as an oncogene in ovarian cancer, which creates the basis for further research in this area.

Slug expression and its clinical significance among the renal cell carcinomas

Author(s): Jelena Zekić, Katarina Ivanović Maja Životić, Isidora Filipović University of Belgrade, Serbia Presenting author: Katarina Ivanović Tutor(s): Maja Zivotić

Introduction: Renal carcinomas form a small heterogeneous malignat tumor group with different biological behavior. The incidence of renal carcinomas is constantly rising, whereby the RCC (Renal Cell Carcinoma) has the highest rate, representing 85-95% of all malignat cases. RCC has the highest date rate among all urogenital carcinomas. Slug is a transcription factor involved in the process of epithelial-mesenchymaltransition, which is connected to the progress and metastatic potential of numerous human neoplasms among which is the RCC.

Aim: A nalyzis of Slug expression and its signifiance among the renal cell carcinomas.

Material and methodes: Tumor tissue s amples were obtained from 165 kidneys tumors, who were diagnosed between 2012 and 2018 year at Institute of Pathology Faculty of Medicine, University of Belgrade. Sample included 118 clear cell RCC, 22 papillary RCC, 24 chromophobe RCC, 5 Multilocular Cystic RCC and 6 Collecting Duct RCC. Slug-Expression has been determined in tissue samples by immunohistochemical analysis.

Results: Among 165 RCC, Slug expression was recorded in 100 (60.24%). The incidence of Slug expression was increased among RCC with sarcomatoid component (p=0.032). The Kaplan-Meyer 's survival analysis showed the impact of sarcomatoid component and Slug expression on the survival of patients with RCC. Cox regression analysis recognized Slug as the only independent prognostic factor (p=0.046). Analysis of the Clear cell RCCs showed a relation between nuclear grade and nuclear slug immunopositivity (p=0.011). NG (nuclear grade) and Slug expression affect the survival of the Clear cell RCC patients. Cox regression analysis cognized NG as the only independent prognostic factor.

Conclusion: Regarding complete sample, it was shown that Slug stand out as an important prognostic factor. Slug expression affects the prognosis directly in the Clear cell RCC, influencing an increase in nuclear grade.

Keyword: Renal cell carcinoma, Slug

The sensitivity and specificity of EBUS-TBNA biopsies in evaluating the spread of lung cancer to N2 / N3 regional lymph nodes

Author(s): Vaida Sudmantaitė
Vilnius University, Lithuania
Presenting author: Vaida Sudmantaitė
Tutor(s): Vygantas Gruslys, Brigita Jonaityte
Anius Komarovec

Introduction

Endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA) biopsy is a relatively new technique that enables real time ultrasonic visualisation of needle aspiration of peribronchial or peritracheal lesions or lymphnodes. Based on the literature, EBUS-TBNA has a high sensitivity in the mediastinal staging of lung cancer. Other indications for the procedure are mediastinal lymphadenopathy cysts.

Aim of the study

To evaluate the sensitivity and specificity of EBUS-TBNA lymph node biopsies in assessing the spread of lung cancer to the lymph nodes of the N2 and (or) N3 regions.

Matherial and methods

An anonymous prospective study was conducted between January 2015 and October 2019 at Vilnius university hospital. All patients with diagnosed lung cancer for whom a pathologic assessment of N2 and N3 regional lung nodes was indicated to clarify the disease stage were enrolled in the study. According to the indications, some patients were performed PET/CT prior to biopsy. The obtained morphological results were compared with a surgically obtained lymph node morphological material were available. Sensitivity and accuracy of the method for detecting the spread of cancer to the lymph nodes of the N2 / N3 region of the lung were calculated using the standard definitions and expressed at the 95% binomial confidence interval. Specificity of EBUS-TBNA samples was assumed to be 100%.

Results

EBUS-TBNA was performed in 46 patients, 29 (63%) were men. Mean age of study group was 62.1 ± 10 years. Most common primary lung cancer is adenocarcinoma, 45.7% (n=21), and squamous cell carcinoma - 41.3% (n=19). The sensitivity of EBUS-TBNA to successfully puncture lymph nodes in first try was 91%. During all procedures there were no life threatening complications.

Sensitivity, specificity and accuracy of EBUS-TBNA to evaluate the spread of lung cancer to regional lymph nodes were 81%, 100%, 89.7%, respectively.

PET/CT was performed on 28 patients. In positive PET/CT lymph nodes the sensitivity, specificity and accuracy of EBUS-TBNA were 66.67%, 100%, 86.67%, respectively. And in negative lymph nodes, the spread of lung cancer was not found.

Conclusion

Our analysis found a high specificity of the EBUS-TBNA to estimate the spread of lung cancer to the N2/N3 regional lymph nodes, but the sensitivity was not found high enough.

Systemic inflammatory markers are associated with overall survival in pancreatic cancer patients.

Author(s): Adrian Perdyan, Rafał Pęksa Michał Bieńkowski Medical University of Gdansk, Poland Presenting author: Adrian Perdyan Tutor(s): Michał Bieńkowski

Introduction

Pancreatic cancer (PC) constitutes only 3,2% of all new cancer cases, however, it is the third most common cause of cancer-related deaths (according to SEER 2019). The course of the disease is unfavourable with only a minor improvement in 5-year overall survival observed during the last 30 years (from 3,0% to 9,3%; SEER 2019), despite the introduction of combined regimens of adjuvant chemotherapy. Recently the analysis of complete blood count (CBC) have gathered considerable attention because of its strong prognostic value in PC patients.

Aim of the study

In this study, we aimed to evaluate the association between pre- and post-surgery CBC ratios with overall survival (OS) in PC patients.

Materials and Methods

The study group counted 107 pancreatic cancer patients. Patients who died during the perioperative period or were lost to follow-up were excluded, thus the final group number was 71. CBC were retrieved from patients' medical records and ratios of neutrophil-to-lymphocyte (NLR) and platelet-to-lymphocyte ratio (PLR) were calculated. Correlation between NLR and PLR and OS was determined by Kendall rank correlation coefficient test. Next, the patients were grouped according to OS with 3 thresholds (6 months, 12 months, 24 months). PLR and NLR values were compared between the groups with Mann-Whitney U test. Finally, receiver operating characteristic (ROC) curves were plotted for each parameter vs. OS group. Statistical analysis was performed with R.

Results

We observed a negative correlation between pre-surgical PLR and OS (p=0.003) and a similar trend for post-surgical PLR (p=0.063); no correlation for NLR was noted. Pre-surgical PLR values were significantly lower in patients surviving more than 1 year (p=0.004). Additionally, elevated post-surgical PLR was noted in patients surviving less than 6 months (p=0.027) with area under the ROC curve of 0.8. We observed no association between NLR and OS.

Conclusions

In this retrospective study, we reported the potential prognostic value of pre- and post-surgical PLR in pancreatic cancer patients.

Whether laboratory results from peripheral blood may still surprise us - searching for new prognostic factors in children with soft tissue sarcomas

Author(s): Radosław Kober, Paweł Karakuła Medical University of Lodz, Poland Presenting author: Radosław Kober Tutor(s): Karolina Krajewska

INTRODUCTION

Soft tissue sarcomas (STS) in children are rare childhood malignant with poor prognosis. Their diagnosis, pretreatment staging and risk classification are based on biopsy and radiological findings. However, initial laboratory parameters might offer additional insight into patient risk stratification.

AIM OF STUDY

The aim of our study was to identify a new prognostic factors in pediatric STS - laboratory findings at the moment of diagnosis and their influence on overall survival (OS) and event free survival (EFS)

MATERIAL AND METHODS

We have conducted a retrospective study of patients treated between 2008 and 2019 at the Department of Pediatrics, Oncology and Hematology in Medical University of Lodz. Children whose course of chemotherapy started outside the clinic have been excluded. Following data have been gathered: age during diagnosis, tumor histological type, its staging, size, type and location, bone marrow involvement, results of laboratory findings including complete blood count, LDH, CRP, tumor's reaction to chemotherapy, recurrences and information on registered patients' further fate. We have also calculated NLR (neutrophil-to-lymphocyte ratio), PLR (platelet-to-lymphocyte ratio), LMR (lymphocyte-to-monocyte ratio). The significance of various prognostic factors and their impact on OS and EFS were analyzed using Cox regression.

RESULTS

Our research group consisted of 43 patients (F - 13, M - 30). Mean age of the group was $8.59~(\pm 4.94)$ year. The most common tumor type was RMS embryonic type. Most of patient was in III (37,2%) and IV (34,7%) stage of disease according to Staging International Rhabdomyosarcoma Study Group (IRS). Relapse of neoplasm was detected in 11 patients (25,5%). In case of 7 (16%) patients' death was ascertained. Overall Survival (OS) for the whole group was 75.2% (95%CI: 60.6-93.3%) and Event Free Survival (EFS) was 65.3% (95%CI: 50.2-85%). Bone marrow involvement was associated with significantly worse EFS (22.2% (95%CI: 40.7%-100%) vs 74.9% (95%CI: 58.7%-95.5%) p=0.022). Risk of relapse was increased by 2% (HR 1.02, 95%CI: 1-1.004, p=0.005) for each 10 unit increase in initial LDH. OS was significantly lower in the group of patients with PRL over 113 (OS: 91.25% vs 58.75%, p=0.033)

CONCLUSION

There are various risk factors significant in prognosis. Essential EFS determining factor for the study group was bone marrow involvement and LDH which substantially increases recurrence probability and in OS there was notable association with PLR.

Clinical and laboratorial features assessment of first time hospitalized pituitary adenoma patients

Author(s): Laura Bluzmane, Toms Klinovičs Riga Stradins university, Latvia Presenting author: Laura Bluzmane Tutor(s): Liga Jaunozolina

Introduction: Pituitary adenomas account for 15% of primary brain tumors and the majority are benign slow growing neoplasms. Radiologically pituitary adenomas can be classified as micro (<10 mm) and macroadenomas (>10 mm); clinically as functioning and non-functioning. Clinical manifestations are usually represented by endocrinological hypersecretion or hypopituitarism, and neurological symptoms due to mass effects. Magnetic resonance imaging (MRI) is the imaging modality of choice essential for accurate diagnosis and effective disease management.

Aim: To assess clinical symptoms, laboratorial features in first time hospitalized pituitary adenoma patients and to evaluate main MRI findings.

Materials and Methods: Medical records of 64 first time hospitalized pituitary adenoma patients registered in Riga East University Hospital from 2018 to 2019 were retrospectively reviewed. Referral details, clinical and laboratorial features, radiological studies by MRI of the mass (size, invasion, optic chiasm relation) were analyzed. Statistical data was processed by IBM SPSS Statistics v23.

Results: Out of total 64 cases 35.7% (n=25) were male and 55.7 % (n=39) female at the mean age of 54.4 ± 18.8 years. Based on MRI 58.6% (n=41) of cases were macroadenoma; 32.9% (n=23) microadenoma, respectively. 58.6% (n=41) of pituitary adenomas defined as functioning; 32.9% (n=23) non-functioning. 47.1% (n=33) of patients admitted to the hospital with a headache; 48.6% (n=34) presented with nausea. 42.9% (n=30) of pituitary adenomas were prolactin secreting; 27.1% (n=19) growth hormone secreting; 8.6% (n=6) adrenocorticotropic hormone secreting. Varying degrees of visual disturbance were observed in 28.5% (n=20) cases. The most common extra-sellar mass features were optic nerve atrophy (52.9%, n=37) and infundibulum dislocation (34.3%, n=24). A statistically significant association was found between macroadenomas and clinical manifestations of headache (p=0.002), nausea (p<0.001), visual disturbance (p=0.004), laboratorial hormone secretion (p=0.021) and radiological optic nerve atrophy (p<0.001). Infundibulum dislocation correlated with diagnosis of prolactin secreting adenoma (p<0.001).

Conclusion: Macroadenomas were associated with a broader spectrum of clinical manifestations (headache, nausea, visual disturbance) and laboratorial (hormone secretion), radiological (optic nerve atrophy) features.

Experimental studies on the cardiotoxicity of 5-Fluorouracil

Author(s): Aleksandra Midro, Michał Jurczyk Magdalena Król, Paulina Stach Jagiellonian University Medical College, Poland Presenting author: Aleksandra Midro Tutor(s): Krzysztof Gil, Kamil Skowron

Introduction

5-Fluorouracil (5-FU), classified as an antimetabolite, belongs to the most cardiotoxic antineoplastic medications just after anthracyclines. Its administration is especially common in the treatment of colorectal, anus and stomach cancers. Yet, it is essential to find a substance, which could be co-administered with 5-FU to prevent from various side effects (i.e.cardiac). The use of vitamin D seems therefore promising, however its molecular mechanism of action and pleiotropic effects in cardiovascular and neoplastic diseases remain unknown.

Aim of the study

The aim of the study was to evaluate the risk of cardiotoxicity of 5-FU administration and to assess the cardioprotective impact of vitamin D co-administration.

Material and methods

Male Wistar rats (n=40) were randomly divided in two groups: in the first group (G1) only 5-FU was administered and in the second group (G2) 5-FU was given in combination with vitamin D. In total, every rat received 4 doses of 5-FU (150 mg/kg) with 2-week intervals after every cycle. Electrocardiography was conducted 6 times: before the first administration, after each dose of 5-FU and 2 weeks after the last administration. The following parameters were taken into consideration: P waves, PQ intervals, QRS complexes, QT intervals and T waves.

Results

In both experimental groups 5-FU caused prolonged P wave duration (G1=19.26 vs G2=22.85, p=0.04). The atria repolarization time (Pd) was different for the group with 5-FU only and the second one with 5-FU given with vitamin D (G1=11.7 vs G2=10.8, p=0.309) after all 4 doses. 5-Fluorouracil caused PQt increase from the first dose to the fourth one (52.7 vs 58.6, p=0.01). aQTt duration increased after the first dose of 5-FU (45.7 vs 49.2, p=0.29).

Conclusions

It is widely accepted that 5-FU causes multiple cardiotoxic effects. Our results show the prolongation of the depolarization and repolarization time of both atria and ventricles. In accordance with scientific assumptions, those could be the mechanisms responsible for numerous diseases such as coronary artery disease, myocardial infarction, arrhythmias and even cardiac arrest. As our research shows, the impact of 5-FU on QT interval seems the worst after the first dose. Vitamin D may ameliorate some of the negative effects of 5-FU, especially prolonged QT intervals, but the effects of vitamin D co-administration are closely associated with the particular cycle of chemotherapy.

Opthalmology and Optometry



Coordinators: Dagmara Spętana, Karolina Pendrasik,

Jury: prof. dr hab. n. med. Wojciech Omulecki, dr n. med. Małgorzata Górka,

Effect of green tea on intraocular pressure changes

Author(s): Kornelijus Gasiūnas Vilnius University, Lithuania Presenting author: Kornelijus Gasiūnas Tutor(s): Saulius Galgauskas

Introduction

High intraocular pressure (IOP) is often a difficult parameter to adjust, especially among people with glaucoma. Glaucoma can only be slowed down, but not prevented. For this reason among conventional delaying factors of Glaucoma onset - regular eye exams, reduction of intraocular pressure and prevention of eye injuries, clinicians search for the new ones. The experiment below aims to prove that green tea can help lower eye pressure and in that case may help slow down Glaucoma progression.

Purpose

Effects of green tea are often compared to those of coffee, eye pressure increasing effects. However, tests with laboratory rats show the opposite trend. Studies suggest that a protective factor of the eye is catechins (properties found in green tea). Therefore, the purpose of this experiment is to determine how green tea and catechins can effect IOP changes.

Methods

32 young volunteers were included in the study. The experiment was held between 12pm. and 2pm. 2 extracts - green tea 400 mg and epigalocatechin (EGCG) 400 mg capsules were used in the study. Participants were divided into three groups. Green tea extract group (GT group) 14 subjects, EGCG extract group (EGCG group) 14 subjects, control group 4 subjects. Primarily IOP was measured with the Icare tonometer, then 30min, 1h, 1,5h and 2h after each extract consumption. Results were analyzed using IBM SPSS program. Statistical confidence level p<0.05.

Results

At first in the GT group mean IOP in the left was 18.57 ± 0.875 mmHg in the right - 18.93 ± 0.774 mmHg. In the EGCG group left - 18.5 ± 4.895 mmHg, right - 19 ± 4.883 mmHg. In the control group, left - 15.25 ± 2.394 mmHg, right - 16.25 ± 3.146 mmHg. After 30 min from the beginning in all three groups IOP changes were not statistically significant. In the GT group after 1 h and 1,5 h IOP changes were not statistically significant in the left eye and has decreased statistically significantly in the right eye - after 1 h $(1.86 \pm 0.592 \text{ mmHg})$, after 1,5 h $(2 \pm 0.432 \text{ mmHg})$. After 2 h IOP changes were statistically significant in both eyes, left $(2.21 \pm 0.939 \text{ mmHg})$, right $(2.57 \pm 0.581 \text{ mmHg})$. In the EGCG group after 1 h and 1,5 h decrease of IOP was statistically significant in both eyes. After 1 h left - $(2.36 \pm 0.875 \text{ mmHg})$, right - $(1.929 \pm 0.559 \text{ mmHg})$ after 1,5 h left - (2.858 mmHg), right - $(1.79 \pm 0.556 \text{ mmHg})$. After 2 h mean IOP in both eyes was going back to the normal range. The difference from the first measurement in the left - $(1.64 \pm 0.912 \text{ mmHg})$, in the right - $(1.14 \pm 0.74 \text{ mmHg})$. Throughout the whole experiment IOP changes were minimal and were not statistically significant in control group.

Conclusion

In both eyes s tatistically significant decrease of IOP after 1 h and 1,5 h after EGCG extract consumption and after 2 h after Green tea extract consumption was measured. Therefore, people who have increased IOP or risk factors for glaucoma development, can benefit from drinking green tea.

Effectiveness of allergen immunotherapy in allergic conjunctivitis

Author(s): Miłosz Lewandowski, Paweł Łukowicz Medical University of Gdansk, Poland Presenting author: Miłosz Lewandowski Tutor(s): Marek Niedoszytko, Marta Chełmińska

Abstract

Introduction

Allergic conjunctivitis is a prevalent allergic disease with increasing prevalence. It decreases significantly the quality of life, causes an actual everyday discomfort. The only causative treatment of allergic conjunctivitis is an allergen immunotherapy.

 $_{
m Aim}$

The aim of the study was to assess efficacy of allergen immunotherapy in reducing of ocular symptoms in population suffering from allergic conjunctivitis.

Methods

The research was conducted on adult patients in age from 18 to 68 (SD=11.58), 53 men and 29 women, with an average age 34. Studied patients were treated in outpatient unit of the Department of Allergology Medical University of Gdańsk. The analysis was based on the questionnaire, containing symptom-medication score based on Allergy-Control Score (ACS). The patients marked ocular symptoms: lacrimation, itching and redness before the beginning of treatment and then during or after the treatment. Additionally patients named other medicaments, which they also took before the beginning and then during or after the treatment. For each patient we recorded data like age, gender, type of allergen, type of vaccine, co-morbidities such as hypertension, hypothyroidism, gastroesophageal reflux disease, food allergy; and smoking history.

Results

Studied patients suffered from pollen allergy-56 (68%) and house dust mites-26 (32%). All of the patients were treated with SCIT. The results of both symptom score and symptom-medication score show significant differences; symptom score p<0.00001, symptom medication score p<0.00001. The mean difference before and after administration the allergen immunotherapy in symptom-medication score was 11.04 (SD=9.37), in symptom score it was 10.01 (SD=5.57). We also observed that results of immunotherapy in population with coexisting conjunctivitis symptoms are better than in patients with solely rhinitis and/or asthma (p=0.01).

 $\operatorname{Conclusions}$

Allergen immunotherapy is effective in reducing symptoms of allergic conjunctivitis and also leads to the reduction of concomitant medicaments like: cromoglicans, steroids or H1 blocker used in treatment of allergic conjunctivitis.

Evaluation research of the risk factors of age-related macular degeneration (AMD)

Author(s): Ada Sterczewska, Alicja Wojtyniak Medical University of Silesia in Katowice, Poland Presenting author: Ada Sterczewska Tutor(s): Dorota Pojda-Wilczek

Introduction: Age-related macular degeneration (AMD) is the leading cause of blindness in Western populations. Worldwide, the number of people with AMD is projected to increase by approximately 40 % from 2020 to 2040. Unfortunately, the causes of this disease are still to be discovered despite scientists' interest in this topic. However, the main risk factors of AMD were determined.

The Aim: We aimed to assess the prevalence of AMD risk factors in Polish population of AMD patients and healthy individuals over 40 years of age.

Materials & Methods: Simplified Thea AMD Risk-Assessment Scale (STARS) was performed on people aged over 40 years old including AMD patients in Poland. The questionnaire contained questions about demographics and AMD risk factors.

Results: Data were obtained from 142 adults. Of these 60% were female (F) and 40% were male (M). 60% people was in age range of 40 to 64, 18% in 65 to 74 and 22% were over 74 years of age. 48 cases of AMD were reported (33.8%, F: 29.4%; M: 40.3%, p>0.05). It was observed more often in adults over 65 years old (p < 0.05). Self-reported AMD family history prevalence was 12%, 4.9% in AMD patients and 7.04% in people without this disease (p>0.05). AMD patients were more often diagnosed with hypertension (p < 0.05), hypercholesterolaemia (p < 0.05) and arteriosclerosis (p < 0.05) compared to adults without AMD. Phacoemulsification procedures had been performed much more often in AMD group compared to the healthy one (p < 0.05). People reported myocardial infarction with similar frequency in both groups (p < 0.05). There were no statistical difference in occurrence of myopia, hyperopia and no refractive errors between the groups (p>0.05). Mean Body Mass Index (BMI) was 26.8. It was not different between the groups (p>0.05). Current, former <10 years, former >10 years and never smokers made up respectively 10.4%, 8.3%, 54.1% and 27.1% in AMD group and 9.6%, 11.7%, 26.6% and 52.1% in no AMD group (p < 0.05). Smoking was more common in people with AMD (p < 0.05). STARS median score in overall group was 9.5 points (0-30). Median score in AMD group was 14 points. The score was significantly higher in AMD group compared with no AMD group (p < 0.05). The distribution between low, moderate and high risk group was respectively 25%, 58% and 17% in AMD group, 69%, 29% and 2% in no AMD group and the difference was statistically significant (p < 0.05).

Conclusions: Most AMD risk factors included in the questionnaire occur more often in AMD patients in our case. Equally, in spite of getting low risk score for AMD it is possible to get this disease. Moreover, there is a need for wider education about healthy lifestyle which influences AMD risk as well as other diseases. AMD risk factors and causes of this disease need further investigation.

Glucocorticosteroid-induced cataract - an imperceptible problem in the Polish population? -The assessment based on the analysis of Polish National Health Fund

Author(s): Miłosz Caban Medical University of Lodz, Poland Presenting author: Miłosz Caban Tutor(s): Michał Wilczyński

Introduction

One of the major problems that the healthcare systems worldwide are challenged with is an increasing incidence of inflammatory diseases that require treatment based on chronic use of glucocorticosteroids. Regardless of its efficiency, this treatment option is associated with the risk of serious side effects including eye disorders, inter alia cataract. It may cause that glucocorticosteroid-induced cataract is an imperceptible problem.

Aim of study

The overall goal of the study was to find if there is an association between the number of patients affected by inflammatory diseases which are treated using glucocorticosteroids and cataract occurrence in the Polish population. Since the available patient classification does not take into account a large number of diseases that can be complicated by cataracts due to glucocorticosteroids treatment, the purpose of this work was to demonstrate the grounds for expanding the categorization of cataracts which could be crucial for better patient treatment and would have an important socio-economic impact on the healthcare system in Poland.

Materials and methods

In this study the public data from the Polish National Health Fund (NHF) were analyzed.

Results In the years 2014-2017, the number of patients hospitalized in Poland was increasing, both in the group of patients with complicated and non-complicated cataract. According to the Polish NHF data, the percentage share of this type of cataract in the operations of complicated cataract was in the range of 0.65 - 1.37% in 2014-2018. The analysis of the Polish NHF data revealed that the assumed total number of patients with these inflammatory diseases changed over the years 2014-2018 and still remains at a high level.

Conclusions

The classification used by the Polish NHF needs to be extended to allow thorough assessment of individual cases and the incidence of specific types of cataracts that occur in the Polish population, including glucocorticosteroid-induced cataract.

Evaluation of the eye adnexal tumors in 2014-2019 at prof. K. Gibiński University Clinical Center in Katowice

Author(s): Sugarmaa Baasansuren, Alicja Wojtyniak Agata Pałasz, Klaudia Bulska Medical University of Silesia, Poland Presenting author: Sugarmaa Baasansuren Tutor(s): Dorota Pojda-Wilczek

The tumors of the eye adnexa are histologically heterogeneous group. They can pose both an aesthetic problem and lead to vision loss.

The aim of a study was to assess the eye adnexal tumors in relation to the histological type, patients' age and sex and location of lesion.

In this study we analysed histopathological results of patients, whose lesions in the eye adnexa had been removed in years 2014-2019 at the University Clinical Centre prof. K. Gibiński in Katowice.

Data were obtained from 674 histopathology results: 102 from 2014, 80 from 2015, 116 from 2016, 126 from 2017, 89 from 2018 and 161 from 2019. 57.9% patients were female (F) and 42.1% patients were male (M). Mean age of patients at the moment of diagnosis was 61 years. Benign tumors occurred in 66.8% of cases and concerned following: eyelid- 62.4%, conjunctiva-24.9% and orbit-12.7% of these cases. 33.2% removed tumors were malignant. Malignant cases occurred more often in male than in female patients (F:30%, M:38%; p<0.05). In malignant group the most common tumors were basal cell carcinoma (83.0%) and squamous cell carcinoma (7.6%). 62.4% of malignant tumors were located on inferior eyelid and it was 56.8% of these tumors' locations. They were also statistically much more common there than on superior eyelid (p<0.05). Malignant and benign tumors occurred with similar frequency in the right eye and in the left eye (p<0.05). In three cases metastases of epithelial cancer was detected. B-cell lymphoma appeared 6 times in examined material. In 2019 rare case of metatypical basosquamous cell carcinoma and in 2015 papillary squamous cell carcinoma were described in histopathology results. Patients diagnosed with malignant tumors were statistically older than patients with benign changes (p<0.05).

Changes within eye adnexa could pose a serious threat to patient's health, therefore they should not be ignored, especially for that reason that about 1/3 of them are malignant.

Quality of life of individuals living with Achromatopsia

Author(s): Loreta Kavaliukaite Vilnius University, Lithuania Presenting author: Loreta Kavaliukaite Tutor(s): Rasa Strupaite

Introduction. Achromatopsia is an autosomal recessive disorder, defined as loss of cone function in the retina and presenting with colour blindness, photophobia, nystagmus and low visual acuity. It affects 1 in 30,000 people worldwide. As there is no specific treatment an understanding of achromatopsia from a patient-perspective is important for providing the best possible medical care.

Aim. Ascertain the aspects of life, which are the most affected by achromatopsia.

Materials and methods. Massof Activity Inventory questionnaire, which consists of 3 activity objectives (daily living, social interaction, and recreation), was used to investigate which goals are the most affected by achromatopsia. A patient was asked to rate each goal on a 4-point scale ranging from "not important" to "very important", as well as "not difficult" to "impossible to do without someone else 's help". Also, unstructured interviews were performed.

Results. The questionnaire was responded by 8 patients with a chromatopsia. In daily living section - most important goals were being able to eat, take care of personal hygiene , manage finances and use a phone without anyone else's assistance (100% of respondents found it very important, 80-85,5% - slightly difficult) .

Most difficult aspects of these goals : locat ing food on a plate , reading a bill, filling tax form , brush ing teeth, shaving , detect ing, stains on clothes .

In social interaction section, most important goals were entertaining guests (57.1% - very important, 100% - not difficult), attending meetings (40%- very important, 75% - moderately difficult), dining out (33.3% - very important, 75% - moderately difficult). Most difficult aspects: recognizing people, seeing gestures, making eye contact.

Most important goals of recreation: traveling (80% - very important, but impossible to do without someone else's help), computer use (82,4% - very important, 66,7% - moderately difficult), leisure entertainment (100% - very important, 50% slightly difficult). Most challenging is reading maps, using transport, p laying board games, using a camera. Activities like driving or fishing were neither important nor possible without someone's help.

Unstructured interviews revealed that patients with achromatopsia feel that their daily struggles are not understood in society and needs are not fully met in medical care.

Conclusion. The most difficult tasks for people with achromatopsia are the ones, requiring colour-coding, precise movements, good visual acuity. This is the first study to research the impact achromatopsia has on quality of life and the findings can help develop a standardised achromatopsia-specific quality of life tool. It would be useful in improving healthcare, creating assistive technologies for people with achromatopsia as well as raising awareness about this complex condition.

Orthopedics



Coordinators: Tomasz Dembowski, Bartosz Szmyd,

Jury:

dr n. med. Krzysztof Małecki, dr n. med. Adam Kwapisz, dr hab. n. med. prof. nadzw. Marcin Domżalski, lek. Kornelia Pruchnik, prof. dr hab. n. med. Jarosław Fabiś,

Fractures of clavicle - a bone of contention

Author(s): Marta Uszyńska, Natalia Siwecka Jędrzej Chrzanowski Medical University of Lodz, Poland Presenting author: Natalia Siwecka Tutor(s): Ilona Wagner-Olszewska, Filip Płużański

Introduction

Clavicle fractures are quite common, comprising 2.6% to 4% of all fractures. About 80% of them are located in the middle third of the clavicle. For ages, the preferred treatment option for these fractures was conservative. However, the newest reports have suggested that operative management may in fact be more beneficial than non-operative and less often associated with side effects.

Aim of the study

To assess the effects (benefits and harms) of surgical versus conservative interventions for treating clavicle fractures, as well as the impact of specific factors on post-fracture complications.

Material and Methods

The data of 123 patients were obtained from the records of USK - WAM, Medical University of Lodz. The study included a group of 87 male and 36 female patients,

aged between 18 to 96, treated for clavicle fractures in years 2013-2020. Midshaft fractures comprised 60%, fractures of the distal end 36% and of the proximal end 4%. We analyzed the data of 76 conservative and 42 operative interventions along with concurrent injuries, post-treatment complications, and pre-existing diseases. Due to recurrent fractures in the past, we excluded 5 patients from our study. Fisher's exact test, Chi-Square test and Chi-Square test with Yates' correction were performed for the statistical analysis.

Results

The complication rate in patients treated conservatively accounted for 59,5%, whereas in surgically treated for 38,1% (p=0.0394). Surgical interventions were associated with a lower rate of fracture dislocation (p=0.0035), but fixation failure occurred in 23,8% of patients operated on and was linked to using simple sling rather than figure 8 (p=0.0315). Regardless of treatment option, dislocation was more frequent in the case of old fractures (p=0.0018), whereas shortening could not be eliminated in 23,1% of cases (p=0.0047). Among coexisting diseases, we have found a significant correlation between rib fracture, chronic kidney disease (CKD), diabetes mellitus (DM), hypertension (HA) and higher frequency of malunion or decreased range of motion.

Conclusions

Operative treatment is significantly correlated with lower complication rates. Nevertheless, it should not be considered a golden standard and the optimal treatment should be individually tailored to fit the specific needs of each patient. It should also be kept in mind, that anatomical reduction does not always guarantee a satisfactory clinical outcome. Chronic diseases such as CKD, DM or HA are associated with a higher risk of side-effects after fracture on the grounds of causing chronic inflammation and disruption of calcium homeostasis, and therefore hindering the process of bone and tissue repair.

Orthopedic treatment and early weight-bearing for Pronation Rotation type III ankle fractures in elderly patients: Quality of life and complications

Author(s): Gonzalo Mariscal Ruiz-Rico, Rafael Lorente Valencia Catholic University, Spain Presenting author: Gonzalo Mariscal Tutor(s): Carlos Barrios, Alejano Lorente

Introduction: Pronation Rotation type III ankle fracture

represents almost 40% of total ankle surgeries. Evidence on the specific management of ankle fractures according to the characteristics of each patient is needed. In elderly patients, conservative management and a non-weight bearing protocol is the standard procedure. Leaving elderly patients without weight-bearing could be detrimental to their quality of life.

Purpose: This study aimed to compare the quality of life, assess complications and cost implications of weight-bearing and non-weight-bearing in elderly patients with this fracture pattern.

Material and methods: It was a prospective cohort study. Elderly patients with non-displaced suprasindesmal fracture and deltoid ligament injury or non-displaced medial malleolus fracture with reduced syndesmosis were included. The quality of life was assessed with the Barthel Index and the SF-12 questionnaire at 6 weeks, 1 year and two years. The mean age in the NWB group was 82.6 ± 2.6 . In the WB group, it was 83.1 ± 2.6 . The associated complications (fracture displacement, pseudarthrosis, soft tissue problems and rescue surgery) and costs were compared.

Results: A total of 62 patients were included. After the randomization process, 30 patients belonged to the weight-bearing group, while 32 patients belonged to the non-weight-bearing group. The quality of life, measured with the SF-12 scale, showed a significant increase in the quality of life both in the short and long term in the WB group $(53.5 \pm 5.8 \text{ vs } 65.2 \pm 4.4 \text{ at } 6 \text{ weeks}$ and

 70.1 ± 4.2 vs. 80.9 ± 3.7 at 2 years; p < 0.001). The WB group also showed a greater quality of life measured through the Barthel Index (54.5 ± 5.2 vs. 64.3 ± 4.0 at 6 weeks and 71.0 ± 4.3 vs. 80.7 ± 3.4 at 2 years; p < 0.001). There was no significant difference in the complication rate of the two groups. Patients in the non-weight-bearing group needed additional financial support.

Conclusions: Elderly patients with Pronation Rotation type III ankle fractures could receive weight-bearing, to increase the quality of life and functionality. Weight-bearing is a safe procedure with a low complication rate.

Is Blood Loss Reduced With Use Of Cruciate Retaining Total Knee Arthroplasty With Comparison To Posterior Stabilized Ones? Comparative Multi-Center Study.

Author(s): Marcin Mostowy, Marcin Wojewódzki Julia Wojtowicz, Krystian Zarnovsky Medical University of Lodz, Poland Presenting author: Marcin Mostowy Tutor(s): Bartosz Maciąg

Introduction Concerning blood loss, there is no clear evidence favoring use of either posterior-stabilized (PS) or cruciate-retaining (CR) implants for total knee arthroplasty (TKA) and using femoral tourniquet and closed suction drainage. It is supposed that due to additional cut for the Insall box in PS implants, there might be higher blood loss during surgery and in the early postoperative period.

Aim of the study The aim of our study was to assess differences in the estimated blood loss and number of blood transfusions between PS and CR total knee arthroplastics from surgery to the time of discharge from the hospital and how use of closed suction drainage and tournique influences the results.

Material and Methods This was a multicenter, retrospective clinical study. Patients that underwent TKA were identified in hospital databases. The TKA procedures differed between hospitals: in one hospital tourniquet and closed suction drainage were used, in second hospital only tourniquet with no drain were used and in third hospital no tourniquet or drain were used. In two hospitals both CR and PS groups were collected, in third hospital only CR group was collected. Acquired were information about haemoglobin levels at submission, after surgery and before discharge and afterwards the blood loss was assessed using the blood volume calculator. The following exclusion criteria were used: posttraumatic knee osteoarthritis, previous osteotomies around the knee, intake of drugs influencing blood clotting, surgeries within a year before analysed procedure. Acquired data were analysed statistically.

Results 126 TKA patients (101 females, 25 males; mean age 69,76 years, SD=7,44) were included: 25 tourniquet and drain CR, 24 tourniquet and drain PS, 27 tourniquet no drain CR, 24 tourniquet no drain PS and 26 no tourniquet no drain CR. Mean blood loss in CR group was 1122ml (SD=607ml) and in PS group it was 1285ml (SD=613ml). That difference was not statistically significant, both in univariate analysis and when analysing together with tourniquet and drain usage. Mean blood loss in tourniquet and closed suction drainage CR group was 966ml (SD=633), in tourniquet and no closed suction drainage CR group it was 1357ml (SD=540ml). Both of these values differed significantly from blood loss in no tourniquet no closed suction drainage CR group, which was 1439ml (SD=561ml), p=0,027 and 0,02, respectively. There were no differences in number of blood transfusions between any groups in univariate and multivariate analyses.

Conclusions Outcomes of this study suggest that blood loss following TKA was significantly limited by use of tourniquet, while no differences were found between any PS and CR group and use of drain. Such results might influence the approach for blood transfusions, intra-operative and postoperative patient care. However, further investigation analyzing more factors potentially associated with blood loss following TKA needs to be performed.

LIFE QUALITY AFTER SCANDINAVIAN TOTAL ANKLE REPLACEMENT

Author(s): Paulius Sausdravas
Vilnius University, Lithuania
Presenting author: Paulius Sausdravas
Tutor(s): Aleksas Makulavicius

Introduction. End-stage ankle osteoarthritis impacts life quality by a great amount and is comparable to knee or hip osteoarthritis. Total ankle replacement and ankle arthrodesis is the most popular treatment options. Nevertheless, it is still debatable if it is the best choice, because 10 year prosthesis survival rate varies between 62% and 95%.

Aim of the study.

The purpose of this study was to evaluate life quality of patients with Scandinavian total ankle replacement (STAR) prosthesis and to assess their clinical outcome.

Material and methods. In research participated 33 patients, of which 5 was not included. Patients were operated between 2005 and 2014. Life quality was evaluated using Short Form- 36 (SF-36) questionnaire. Pain improvement was assessed with visual analogue scale for pain (VASFP). The position and condition of the ankle prosthesis components, cysts, heterotopic ossification were evaluated radiographically. Several other questionnaires were filled in: Kofoed, Self-reported Foot and Ankle Score (SEFAS), American Orthopedic Foot and Ankle Score (AOFAS).

Results. Average time after the surgery was 6.9 ± 2.3 years. Average age of the participants was 58.3 ± 12.3 , of which 54% was women and 46% was men. Major indication 89.3% for the operation was posttraumatic osteoarthrosis.

The quality of life was evaluated with SF 36 questionnaire on a scale 0-100. The average results of each section were: vitality 58.9 ± 21.6 , physical functioning 61.4 ± 20.8 , bodily pain 56 ± 21.2 , general health perceptions 52.6 ± 19.1 , physical role functioning 44.7 ± 24.4 , emotional role functioning 51.8 ± 22.5 , social role functioning 66.6 ± 24.9 , mental health 68.3 ± 21.2 . These results add up to mental and physical components, which are 61.4 and 53.7 respectively. There was no statistically significant correlation between life quality and gender, cysts or additional metal implants p>0.05.

On the postoperative radiographs periprosthetic cysts were diagnosed in 60,7% of the patients.

Long term outcomes, according to pre- and postoperative AOFAS, VASFP and SEFAS results, improved significant.

Conclusions. The documentation of SF-36 provides important information to a practicing doctor about postoperative life quality of patients. Periprosthetic cyst formation increases the risk for unstable joint components and it should be considered as one of the follow up reasons. We believe, that total ankle replacement surgery is effective option for end stage ankle osteoarthritis.

Efficacy of pamidronic acid in treatment of secondary osteoporosis in children. A retrospective, single-center, open-label study.

Author(s): Bartłomiej Juszczak, Szymon Bień Collegium Medicum Jagiellonian University in Cracow, Poland Presenting author: Bartłomiej Juszczak Tutor(s): Jerzy Sułko

Introduction: Children suffering from chronic illnesses are at elevated risk for bone strength reduction and subsequent fractures, which in secondary osteoporosis is provoked either by the impact of the underlying condition on bone structure development or caused by osteotoxic effect of medications such as glucocorticosteroids. While early stages of osteoporosis can be spontaneously recovered by eliminating risk factors in pediatric patients, bisphosphonates should be considered in more substantial cases.

Aim of the study: To examine the efficacy of bisphosphonate therapy in treatment and prevention of bone fractures in secondary osteoporosis in children.

Material and methods: 47 children, 20 girls and 27 boys, from 1 up to 17 years of age, all diagnosed with secondary osteoporosis have been examined retrospectively (2001-2019). 38 patients have finished therapy. 9 patients are still continuing remedy (7 with pamidronic acid, 2 with risendronic acid), 4 patients switched to risendronic acid after reaching adolescence and 1 patient has been withdrawn due to renal insufficiency. All patients were administered intravenously with weight-based dosages of pamidronic acid every 2,5 - 3 months. Authors examined number of fraction events before, during and after treatment along with initial and final bone density measured in densitometry, which resembled efficacy of the treatment.

Results: 47 patients presented different types of fractures in the first place, but only 9 of them ruptured a bone through the duration of a drug administration period. 5 patients had bone fraction after completing whole therapy. Authors have noticed a significant decrease in mean value of Z-Score from approx -3.71 [(-7,6) - (-1,6)] to -1.83 [(-3,6) - (0,5)].

Conclusions: Bisphosphonians have recently gained recognition as one of the most effective first line treatment of osteoporosis in adults. However, there is still no clear evidence considering efficacy and safety of bisphosphonians in treatment of secondary osteoporosis among children. Although presented trial supports the idea of proliferating the use of pamidronic acid I.V. in order to prevent from further fractioning, further trials are warrant.

Can we trust our tools in locking plate osteosynthesis? Evaluation of torque limiting screwdrivers

Author(s): Simonas Utkus, Paulius Sausdravas Povilas Masionis Vilnius University, Lithuania Presenting author: Simonas Utkus Tutor(s): Gieius Kvederas

INTRODUCTION

When performing osteosynthesis with locking plate, it is crucial to follow methodic recommendations in order to avoid pitfalls. Use of worn out or faulty screwdrivers that do not correspond to manufacturer recommended torque force, increases the risk of non-locking and instable osteosynthesis or screw-socket yield and complicated removal of implants.

AIM OF THE STUDY/PURPOSE

To evaluate torque limiting screwdrivers, that are used in osteosynthesis and compare their torque limiting mechanism accuracy with the values declared by the manufacturers.

MATERIAL AND METHODS

An evaluation of torque limiting screwdrivers was performed in two university hospitals. Torque limiters were assigned to two groups according to manufacturers declared values: four 1.5 Nm and six 4 Nm torque-limited screwdrivers.

The custom-built rig was used to find out the biggest force outputs enabling the mechanisms of each torque limiting screwdriver. Each screwdriver was tested by twisting it in a full 360 textdegree angle three times. The results for 1.5 Nm and 4 Nm screwdrivers were documented separately and tested for normal distribution. We evaluated how many screwdriver force output values were above or under by 2 standard deviations (2SD) over the values that are declared by the manufacturers.

RESULTS

The measurements of 1.5 Nm and 4 Nm screwdrivers averaged 1.69 Nm (min 1.28; max 1.97; \pm 0.22) and 3.7 Nm (min 2.36; max 4.8; \pm 0.73), respectively. When evaluating the lowest value, one screwdriver took more than 2SD less force to lock (2.36Nm instead of the declared 4Nm). When evaluating the highest value, two screwdrivers took more than 2SD more force to lock (1.97Nm and 1.96Nm instead of the declared 1.5Nm). The torque limit of the same screwdriver was found to deviate by $\tilde{2}0\%$ at different elastic element positions.

CONCLUSIONS

A total of 33%: two 1.5 Nm and one 4 Nm screwdrivers did not meet the factory declared specifications by more than 2SD. Dispersed values of the same screwdriver rise the question whether one should lock the screw one or several times. Based on the data received, we believe that rules for inspection of the torque limiting screwdrivers should be established. This would help to ensure better maintenance of the operating equipment and to ensure that patients are only operated on quality equipment.

Delay in the diagnosis of primary bone tumors - can we detect them earlier?

Author(s): Dawid Ciechanowicz
Pomorski Uniwersytet Medyczny, Poland
Presenting author: Dawid Ciechanowicz
Tutor(s): Daniel Kotrych, Andrzej Bohatyrewicz
Łukasz Kołodziej

Introduction: Primary bone tumors are a heterogeneous group of rare tumors of mesenchymal origin. They are often characterized by a hidden course, which makes delay in the diagnosis of bone tumors a common phenomenon not only in Poland, but also in the world. Despite the continuous development of Oncology and Orthopedics, about 300 patients die in this group in Poland every year. One factor that has an impact on this is the late detection of bone lesions.

Aim of the study: The aim of the study is to examine the most common symptoms reported by patients with primary bone tumors, determine their duration and analyze the diagnostic and therapeutic path after suspicion.

Methods: 18 patients (M-6; W-12) treated in the Orthopedics, Traumatology and Oncology Clinic in Szczecin for primary bone tumors were qualified for retrospective analysis. Medical records were analyzed. In the absence of necessary data, patients were contacted by phone. Delay in diagnostics was defined as the time from the onset of symptoms to the suspicion of a physician and referral to a reference center.

Results: The mean age at diagnosis was $34 (\pm 10.6)$ years. In the study group, the most commonly diagnosed were: Chondrosarcoma (6), Osteosarcoma (3) and Giant Cell Tumor (4). Neoplastic changes mainly affected the pelvic bones (7), upper limb (5), lower limb (4) and sacrum (2). The most common complaints reported by the patient are: pain in the affected area, including joint pain (16), pathological fracture (7) and limited mobility in the joint (6). In 14 cases it was progressive pain with time and in 10 cases intensifying at night. The delay in diagnosis was on average 14.3 (\pm 17.5) months. Only 4 patients were referred to a reference center with suspected bone tumor in less than 4 months. The mean time from suspicion to biopsy was 21 (\pm 34.8) days. In contrast, the waiting time for histopathological diagnosis was 13 (\pm 6.4) days on average. All patients in the study group underwent surgery to remove the tumor after an average of about 8.5 (\pm 8.7) months after diagnosis. A strong positive correlation was found between the duration of symptoms and the time of surgery (0.8682; p <0.0001).

Conclusions: Patients suffering from primary bone tumors often present their symptoms many months before diagnosis. After suspicion of a bone tumor, the diagnostic path (biopsy-histopathological result) runs relatively quickly. Therefore, knowledge of the most common symptoms of primary bone tumors and greater oncological alertness of GPs can contribute to faster detection of cancerous changes, earlier initiation of treatment and improvement of patients' survival.

Hematogenous Osteomyelitis

Author(s): Karolina Daunaraite Vilnius University, Lithuania Presenting author: Karolina Daunaraite Tutor(s): Valentinas Uvarovas, Donatas Ulevicius

Introduction: Osteomyelitis refers to a bone infection, usually caused by a bacteria. It is clearly a systemic infection, because bacteraemia spreads over proximal and distal long bones or paravertebral plexuses, resulting in acute bone infection and destruction.

Case report: Back in June of 2016, a 46-year-old male patient was complaining of a left thigh pain. After all necessary laboratory and instrumental examinations were performed, he was diagnosed with acute osteomyelitis and an abscess, which was drained and the patient was given an appropriate antibiotic therapy. After a few months, the pain recurred and a CT scan showed a pathologic femur fracture. The patient underwent osteosynthesis using an Ilizarov external fixation apparatus. Moreover, 4 debridement surgeries were performed for recurring infections. After all unsuccessful surgical trials, it was decided by the doctors that the patient has to undergo intramedullary osteosynthesis with a silver-coated intramedullary nail, but a few months later, the puncture was performed and the pus, resistant to many antibiotics with mixed microflora, was extracted. In 2018, the patient was also diagnosed with osteomyelitis of the right femur, lung infiltrates were observed and the patient developed purulent processes on the molars. At the beginning of 2019, due to a non-improving condition and a spreading disease, the consilium concluded that amputation of the left limb was necessary. After amputation of the left leg, the patient recovered completely and the signs of osteomyelitis disappeared.

Conclusions: To sum it all up, more serious or chronic osteomyelitis requires surgery to remove the infected tissue and bone. Osteomyelitis surgery prevents the infection from spreading further or getting even worse up to such condition that amputation is the only option left.

Pediatric Elbow Dislocations: Long-term Outcome Evaluation in QuickDASH Scale

Author(s): Karolina Šakytė, Martinas Baltuonis Vilnius University, Lithuania Presenting author: Karolina Šakytė Tutor(s): Jolanta Labanauskiene

Introduction. Elbow dislocation is the most common of large joint dislocations in the children and the long-term outcomes are not well studied. The Quick DASH scale is a reliable indicator of the level of disability of the upper limb which has Lithuanian translation, therefore can be used without any changes.

Aim of the study. The aim is to evaluate long-term treatment outcomes for pediatric patients, who under 18 y.o. underwent treatment for acute traumatic elbow dislocation in Children 's Hospital, Affiliate of Vilnius University Hospital Santaros Klinikos by using the QuickDASH scale.

Material and methods. A retrospective single center analysis selected 66 patients (0-17 y.) with elbow dislocation with or without medial or lateral epicondyle fractures from 2010 to 2018 at the Children's Hospital, Affiliate of Vilnius University Hospital Santaros Klinikos. Of the 66 patients, 24 (36.36%) completed an anonymous questionnaire, recording patient gender, dominant and injured hand, fracture diagnosis, trauma's season and completed a standard QuickDASH questionnaire. Statistical analysis was performed using SPSS v. 25.0. Data was tested for normality using a Kolmogorov-Smirnov Test, a Student's T-Test was used for analysis of normally distributed continuous data, not normally distributed - Mann-Whitney Test. Categorical variables were compared using $\chi 2$ or Fishers exact test where expected frequencies were less than 10.

P-value less than 0.05 was considered statistically significant.

Results . Elbow dislocation was diagnosed for 18 (75%) boys and 6 (25%) girls. Elbow dislocation without fracture was observed for 10 (41.7%) patients and in 14 (58.3%) epicondyles' fracture was present. Most often, elbow dislocation was diagnosed in the summer season - 10 (41.7%) cases. At an average of 50.67 ± 33.43 (ranging from 4 to 120 months) months after injury the mean QuickDASH value equals 5.78 ± 9.33 , ranging from 0 to 38.6.

Conclusion . Long-term outcomes of an elbow dislocation in children have a good QuickDASH scale evaluation. Limb function remains mostly unaffected or mildly affected.

Subtalar arthroereisis versus calcaneal osteotomy for adult aquired flatfoot

Author(s): Nerijus Stukas Vilnius University, Lithuania Presenting author: Nerijus Stukas Tutor(s): Aleksas Makulavicius

Introduction

Progressing flatfoot deformity may be a very frustrating and inconvenient condition for many patients. When flatfoot deformity is progressing despite conservative treatment surgery becomes necessary. A standart surgical procedures for this condition is lateral calcaneal osteotomy. Recently a new surgical technique took place in modern orthopedics - subtalar arthroereisis.

Aim of the study / purpose

To evaluate the effectiveness and safety of subtalar arthroereisis versus calcaneal osteotomy

Material and methods

Retrospective comparative study was performed at the Vilnius University Center of Orthpedics and Traumatology, Republican Vilnius University hospital. 42 patients data was collected before and after surgery. 25 patients underwent subtalar arthroereisis procedure and 17 were treated with calcaneal osteotomy. For the evaluation SEFAS and AOFAS scores were used. Demographic data and postoperative complications were analysed in this research. Radiographic evaluation of talonavicular angle in both axial and sagittal planes was done. Statistical analysis was performed using R Commander 2.5-2 and MS Excel 2016 software. Data is recognized as statistically significant with p value less than 0.05.

Results

The average age for the subtalar arthroereisis group is $44.1~(\pm 15.66)$ whereas for the calcaneal osteotomy group is $55.15~(\pm 5.89)$ years. Surgery in both right and left leg was permeformed equally 21 times.

Statistically significant improvement (p>0.05) was noticeable in SEFAS and AOFAS scales. The SEFAS scale improved from 20.71 (± 9.06) to 40.54 (± 5.43) points (p=6.057*10 -11) after subtalar arthroereisis while after performing calcaneal osteotomy it improved from 24.06 (± 7.93) to 42.53 (± 6.14) points (p=0.0003198). The AOFAS scale improved from 25.96 (± 12.93) to 81.63 (± 12.06) points (p=1.018*10 -15) after subtalar arthroereisis while after performing calcaneal osteotomy it improved from 28.82 (± 19.13) to 85.76 (± 14.19) points (p=0.0003198). Furthemore the talonavicular angle in the axial plane improved from 20.97 (± 8.05) to 14.09 (± 6.63) degrees (p=0.000457) after subtalar arthroereisis while after completing calcaneal osteotomy it improved from 21.59 (± 5.39) to 16.98 (± 7.3) degrees (p=0.008911). Finally the talonavicular angle in the sagittal plane improved from 9.21 (± 9.00) to 4.20 (± 8.03) degrees (p=0.04137) after subtalar arthroereisis while after calcaneal osteotomy it improved from 10.16 (± 6.73) to 5.11 (± 10.6) degrees (p=0.07968).

There was no significant difference between both surgical procedures. However, only the talonavicular angle in the sagittal plane had significant improvement after the performance of subtalar arthrocreisis procedure.

5 patiens (12%) had postoperative complications. The main cause was superficial surgical wound infection. Conclusions

Positive effect was achieved after both procedures. Subtalar arthroereisis had slightly better improvement in the talonavicular angle in sagittal plane.

Postoperative complications rate after bone external fixation among patients with different comorbidities: two trauma centers' study.

Author(s): Jekaterina Žilska Rīga Stradiņš University, Latvia Presenting author: Jekaterina Žilska Tutor(s): Anis Jumtns

Introduction

External fixation is a method used as temporary or definitive treatment of skeletal fractures of different locations - from wrist to pelvis. External fixators have many advantages - they are quite easy and rapid to apply, provide adequate immobilization and stability, help prevent further soft tissue injury. At the same time this system is in direct contact with environment, therefore there is risk of various specific complications. The most common is pin tract infection.

Aim

The aim of this study was to analyze the rate of complications related to external fixation and following surgical treatment and their correlation with patients' comorbidities.

Methods

This was a retrospective mixed study. 2017 and 2018 data were collected from medical archives of two hospitals and then summarized and analyzed in Microsoft Excel and IBM SPSS Statistics 22.

Results

In this study were analyzed cases of 104 patients. All of them underwent external fixation as only surgical treatment or as a part of it. 85 (81,7%) patients presented documented comorbidities and 19 (18,3%) did not. 8 (7,6%) patients had documented complications: 4 pin tract infections, 1 case of soft tissue damage around the pins due to external construction instability and 1 without instability, 1 internal fixation construction instability after prolonged external fixation and 1 case of infection after internal osteosynthesis that followed the external fixation. 6 out of 8 patients had comorbidities, the most frequent of them were adiposity (66,7%), arterial hypertension (66,7%) and respiratory tract diseases (50%). Among patients without complications the main comorbidities were adiposity (57,9%), arterial hypertension (39,5%) and cardiovascular diseases (28,9%). In group with comorbidities rate of complications was 7,1%, and in group without comorbidities it was 10,5%. There were 6 (5,8%) cases of suspected complications - documented administration of antibiotics or prolonged usage of them without clarification, these patients were included in specific group. Statistically significant correlation was observed between complications rate and respiratory tract diseases (p=0,032), renal diseases (p=0,045) and external fixation location (p=0,017). There was no statistically significant correlation between complications rate and other comorbidities, age, bed-days, smoking status, alcohol abuse, polytrauma and trauma severity.

Conclusions

The rate of complications was higher in group of patients without comorbidities. The most common comorbidity in both groups was adiposity. Statistically significant correlation was observed between complications rate and respiratory tract diseases, renal diseases and external fixation location. There was no statistically significant correlation between complications rate and other reviewed factors. These results emphasize the importance of paying attention during perioperative period either to patients with comorbidities or without them.

COMPARISON OF DIFFERENT TYPES OF PARTIAL WRIST FUSIONS AND PROXIMAL CARPECTOMY USING FUNCIONAL ASSESMENT SURVEYS IN CARPAL INSTABILITY

Author(s): Rūdolfs Vētra, Iveta Beinaroviča Rīga Stradiņš University, Latvia Presenting author: Rūdolfs Vētra Tutor(s): Uldis Krustins

Introduction. The overall well-being and health status of a patient depends on the functional status of hands and the wrists. Carpal ligament instability is a malalignment of the carpus and it can cause limited movement of the wrist, motion abnormalities and can severely decrease the functionality of the hand. It is important to use standardized and patient-orientated instruments in order to assess the results of wrist surgery. In this study, two different questionnaires and Lyon wrist scale clinical score were analyzed before and after surgery.

Aim. The aim of this study was to compare different methods of surgical treatment for carpal instability using different functional assessment tools.

Materials and methods. The study was conducted by Rīga Stradiņš University in cooperation with Microsurgery Centre Of Latvia. Patient history and pre-operative functional assessments were obtained from Microsurgery Centre Of Latvia records and the assessment including 49 patients took place there using Patient-rated wrist evaluation score, Modern activity subjective survey of 2007 score and Lyon wrist score. All participants provided written informed consent. Data were analyzed using SPSS and MS Excel.

Results. Participants were aged 34-72 years, mean age being 49,43 (SD = 8,62). Five patients had proximal carpectomy, six had three-corner arthrodesis, 18 patients had capitolunate arthrodesis and 20 patients had four-corner fusion arthrodesis. There was no statistically significant difference between functional results before or after surgery using MASS07 or PRWE assessment. Median LWS for after four-corner arthrodesis was 78%, after capitolunate arthrodesis was 72%, after proximal carpectomy was 81% and after three-corner arthrodesis was 82%. There was a statistically significant difference (P=0,038) between the LWS in four-corner arthrodesis and capitolunate arthrodesis. The value of LWS in four corner arthrodesis was on average by 9,54% (95% CI, 0.36%-18,72%) bigger than LWS in capitolunate arthrodesis.

Conclusion. Overall, there were not any statistically significant differences between surgery methods in MASS07 or PRWE assessments. There was a statistically significant difference between four-corner arthrodesis and capitolunate arthrodesis using Lyon wrist score. On average, the value of LWS after four-corner arthrodesis was 9,54% percent bigger than after capitolunate arthrodesis. Small number of patients who had proximal carpectomy and three-corner arthrodesis limited the data evaluation. PRWE and MASS07 scoring depends on the mood of the patient and are only subjective making LWS optimal for scoring.

Hofer Clavicula Pin (HCP) as a highly effective method of the operative treatment of the clavicle fractures among children.

Author(s): Agata Węgrzyniak, Oliwer Sygacz Michał Zagórski, Wojciech Wokurka Medical University of Lublin, Poland Presenting author: Agata Węgrzyniak Tutor(s): Grzegorz Starobrat

Introduction

The clavicle fractures among children are one of the most frequent injures of the pectoral girdle and represent 10-15% of all paediatric fractures. 90 % of the clavicle fractures are defined as the middle third clavicle fractures. This kind of injuries are treated mostly non-operatively. In case of a dislocation, abbreviation, open fracture, serious injury e.g. "floating shoulder" or injury to neurovascular structures is indicated the surgical intervention . This solution leads to faster union of the fracture and coming back to normal life activities.

Ai m

The aim of this work is to present results of operative treatment using HCP among paediatric patients of the Department of Paediatric Orthopaedics in University Children's Hospital in Lublin. Also comparing outcomes with the results described in scientific literature.

Material and methods

Retrospective analyzation of medical documentation belonging to patients, who was treated using HCP on Department of Paediatric Orthopaedics in University Children's Hospital in Lublin between 2016-2018. Patient basic information, process and result of operative treatment, but also any occurring complications and recurrence was taken under estimation.

Results

On Department of Paediatric Orthopaedics in University Children's Hospital in Lublin between 2016-2018 was treated 18 patients due to the clavicle fracture. Patients qualified for operative treatment was 13-17 years (13 male and 5 female). Time of treatment was between 3 to 8 months on average 5 months. VAS scale (Visual Analogue Scale) and SPADI index (The Shoulder Pain and Disability Index), which also evaluate the level of the upper limb functionality during everyday activities were used to estimate pain intensity. Both assessment was subjective opinion of the patient. Percent of very good result of the treatment was 44,4% (8 patients), of good was 27,8% (5 patents), of satisfactory 16,7% (3 patents), 2 patients complain of pain related to tissue tension.

Conclusion

Operative treatment using HCP is highly recommended, minimally invasive method of the clavicle fracture therapy. Both paediatric patients and their parents tolerate it quite well. The most important aspects is that this method relates to less amount of any kind of complications. The obtained results are similar to outcomes describing in other scientific publication.

Osgood-Schlatter disease - only conservative treatment? The use of patelet rich plasma in apophysitis of tibial tuberosity

Author(s): Oliwer Sygacz, Maciej Szpejankowski Magdalena Turek Medical Univeristy of Lublin, Poland Presenting author: Oliwer Sygacz Tutor(s): Grzegorz Starobrat, Marcin Romanowicz

Introduction:

Osgood Schlatter disease was described at the beginning of the 20th century and is one of the most common cause of pain in anterior compartment of the knee in children and adolescents. This disease arises as a result of repeated tension of the quadriceps femoris, which leads to avulsion of the tibial tuberosity, its inflammation and damage to the ossification nucleus. Most often it pertain adolescence, especially physically active children. Occurs among girls aged 8-13 and boys aged 10-15. Until now, this disease has been treated conservatively mainly by relieving, cooling and taking nonsteroidal anti-inflammatory drugs. Rehabilitation mainly consists of laser treatments. Platelet-rich plasma (PRP) seems to be an interesting alternative. It is a minimally invasive method that gives good results to patients qualified for surgery.

Aim:

The aim of our work is to present results of treatment of patients with OSD using PRP in the University Children's Hospital in Lublin and compare them with the result described in the world literature.

Materials and methods:

We reviewed the documentation of patients of the University Children's Hospital in Lublin in 2016-2018, who were treated with the PRP. We presented the characteristics of patients, course of treatment, possible complications and recurrences.

Results

In the Children Orthopedics Clinic of the USzD in Lublin in the years 2016-2018, there were 22 patients (16 boys, 7 girls) treated for Osgood-Schlatter disease (OSD). The age of the patient qualified for treatment ranged from 15 to 17. Patients were qualified for PRP treatment after no improvement in rehabilitation for three times and no X-ray documented recovery of the tibial tuberosity. VAS and Karlstrom and Olerund scale were used for evaluation. The Magellan system was used to prepare PRP from the patient's own blood. Immobilization was used to limit knee flexion for a period of 2 weeks. After 3 months of applying this method, complete pain relief was obtained in 17 patients, after a further 3 months in a total of 20. Two patients required surgery despite the treatment.

Conclusions

PRP treatment is a modern method used in many branch of medicine. It is a minimally invasive and safe method, well tolerated by pediatric patients and their parents. First of all, it gives good treatment effects, that are visible shortly after its application. The results of PRP-treatment in our clinic are similar to those described in the literature. Certainly more research is needed on a larger group of patients to accurately evaluate this method.

Surgical treatment of a subverterminal fracture - case report

Author(s): Michał Świątczak, Maciej Kempa Grzegorz Raczak, Ludmiła Daniłowicz-Szymanowicz Medical University of Gdańsk, Poland Presenting author: Kamil Marczewski Tutor(s): Piotr Rydel

Introduction. Fractures within the proximal femoral epiphysis can be classified as a group of fractures requiring detailed imaging diagnostics and treatment combined with rehabilitation in order to properly regain muscle strength and full range of motion. The most common cause of a fracture is a fall on the hip joint. Sub-rotational fractures most often involve older people. The factors predisposing to this type of fractures include osteoporosis and osteomalacia. The most common symptom after a fracture is shortening and external rotation of the limb. Among patients over 60 years of age, due to long immobilization time and worse healing process resulting from coexistence of osteoporosis, fractures may represent a high risk of complications.

Case report. We present a case study of a 71-year-old patient who was admitted to the Clinical Department of Orthopaedics for the diagnosis and treatment of surgical osteolytic lesion located in the right femur. A number of studies were carried out which allowed to choose the appropriate form of therapy. The physical examination described significant restriction of hip joint mobility and severe pain during active and passive movements. Diagnosis was implemented, X-rays were performed, which showed osteolytic changes. In order to extend the diagnostics, a CT scan was commissioned, which showed a pathological fracture of the cortical layer below the interstitial crest. The patient underwent surgical treatment in order to stabilize the fracture closer to the right femoral crest using an intramuscular nail and bone screws. During the procedure a slice was taken and subjected to histopathological evaluation. The patient was discharged in good general condition with recommendations for further treatment. Due to the history of stomach cancer and suspicion of metastases, the patient was under constant control in the outpatient clinic.

Conclusions. This case illustrates the treatment of right femoral subvertebral fracture. The treatment consisted in reconstructing anatomical relations and obtaining a permanent connection which would enable revascularization of the femoral head. The treatment of choice is a surgical procedure aimed at an anastomosis of the fracture. For imaging diagnostics, we take an X-ray of the AP and RM projection to determine the fracture gap. Sub-twist fractures can be differentiated from the fractures of the pelvis, the larger twister and the femoral neck fractures. Oncological patients should be periodically examined for metaplastic changes.

Pediatrics



Coordinators: Anna Gehrmann, Wiktor Rosiak,

Jury:

prof. dr hab. n. med. Marcin Tkaczyk,

prof. dr hab. n. med. Maria Respondek-Liberska,

What chances of survival do the extremely preterm infants born at 22+0/7 weeks' to 23+6/7 weeks' gestation have?

Author(s): Dominika Paw Medical University of Warsaw, Poland Presenting author: Dominika Paw Tutor(s): Joanna Puskarz-Gąsowska

Introduction: Premature birth defined as childbirth before the 37th week of pregnancy concerns 6-8% of all the pregnancies in Poland. It is a significant cause of infant and child morbidity and mortality. It is a group of newborns with high disease incidence and risk of the future developmental disorders occurrence. Depending on how early a baby is born, may be: -late preterm, born between 34 and 36 completed weeks of pregnancy-moderately preterm, born between 32 and 34 weeks of pregnancy -very preterm, born at less than 32 weeks of pregnancy-extremely preterm, born at or before 25 weeks of pregnancy. Damage to immature organ systems inflicted during the neonatal period causes varying degrees of functional impairment with lasting effects in the growing child. Globally, prematurity is the leading cause of death in children under the age of 5 years.

Aim of the study: The paper is an attempt to present the statistic of extremely preterm childbirth and the survival rate among the newborns born at 22+0/7 weeks' to 23+6/7 weeks' gestational age in the Department of Neonatology and Neonatal Intensive Care, Medical University of Warsaw through the years 2004-2018.

Material and methods: A retrospective study of 151 infants born at 22+0/7 weeks' to 23+6/7 weeks' gestational age, birth weight of 400 to 730g in the Department of Neonatology and Neonatal Intensive Care, Medical University of Warsaw between 2004-2018. Gestational age was based on the last menstrual period of the mother, and correction by a first-trimester ultrasonographic examination. One baby was excluded, because of lack of properly determined gestational age (26 weeks' gestation).

Results: 74,83% (113) newborns dead, 25,17% (38) survived including 25 (65,79%) girls and 13 (34,21%) boys. Children who lived developed significant impairments such as: 19 (50,00%) IVH (intraventricular hemorrhage)- 3 (15,79%) of them were III/IV grade, 9 (23,68%) ROP (rethinopathy of prematurity)- 8 (88,89%) treated with laser therapy and 1 (11,11%) with ranibizumab, 4 (10,53%) NEC (necrotizing enterocolitis) and 4 (10,53%) BPD (bronchopulmonary dysplasia) excluding 4 (10,53%) with ventilator-associated pneumonia.

Conclusion: Extremely premature infant and extremely low birth weight infant below 1000g, remain at high risk for death. Rates of survival for infants born at the border of viability are still low. Survivability has not improved through the years, which results both from guidelines for making resuscitation but also from the limits of therapeutic options. This report should be considered for individualized parental approaches and decision making in obstetric and neonatology departments. We plan to further analyze children's development.

The influence of bone marrow stem cell transplantation on selected health status parameters among pediatric patients with metabolic diseases

Author(s): Marek Czyżewski, Andrzej Grzelak Monika Sadowska Wrocław Medical University, Poland Presenting author: Marek Czyżewski Tutor(s): Ewa Barg

INTRODUCTION Bone marrow stem cell transplantation is one of the method of treatment, which can be used in metabolic diseases and congenital, severe immune disorders. Stem cells can be taken from a related or unrelated donor (allogeneic transplant) or the patient himself (autogenous transplant). Acute effects occur up to 3 months after transplantation and include lack of appetite, nausea, vomiting, infections and others. Late effects appear after 3 months and include hormonal and

developmental disorders, germ cell damage or risk of developing other cancer. PURPOSE The assessment of the effect of hematopoietic cell transplantation on body mass, BMI, blood pressure, the concentration of capillary blood glucose and serum LDH in pediatric patients.

MATERIAL AND METHODES

Data were collected from the Department and Clinic of Pediatric Oncology, Haematology and Bone Marrow Transplantation of the University Hospital in Wroclaw. 11 patients who underwent hematopoietic cell transplantation due to the metabolic diseases (X-linked adrenoleukodystrophy, Hurler Syndrome, Metachromatic leukodystrophy, Niemann- Pick disease and osteopetrosis) aged 6 months to 16 years on the day of transplantation (median of 6 years and 1 month) were considered. The data collected on the day of transplantation and 4 weeks after transplantation, such as weight, height, blood pressure, concentration of vesicular glucose and serum LDH were compared. Using centile charts (OLAF and OLA project) body mass SDS (BM SDS), BMI SDS, systolic blood pressure SDS (SBP SDS) and the diastolic blood pressure SDS (DBP SDS) were calculated. The parameters were analysed using the "Statistica" ver. 13.3 program.

RESULTS: There were no correlation between any pair of BMI SDS, LDH, glucose, SBP SDS and DBP SDS measurements on the day of transplantation and 4 weeks later. The mean BMI SDS or BM SDS on the date of transplantation and 4 weeks later were statistically differented

(respectively BMI SDS

-0.04 vs -0.56, p=0.02, BM SDS 0.77 vs -1.17, p=0.015). There were no statistically significant differences of the measurements of LDH, glucose, SBP SDS and DBP SDS comparing the day of transplantation and 4 weeks later. On the day of transplantation 4 children had underweight, after 4 weeks the same 4 patients had underweight (BM SDS or BMI SDS < -1.66).

These patients had deficiency of height as well(HSDS < -1.66). CONCLUSIONS: We did not prove any change of capillary blood glucose, LDH, SBP SDS or DBP SDS after 4 weeks of observation in our group, but this period of time might be too short to find statistically significant differences. Obtained BMI SDS and BM SDS changes 4 weeks after transplantation shows descending trend, which should lead to controlling children's BMI, weight and height after transplantation every week. The study should be continued on a larger group of patients for longer period of time to obtain long term effects of hematopoietic cell transplantation.

Father's role in an infant care

Author(s): Izabela Niziołek, MD Agnieszka Byrwa Adrian Jamroch, Miriam Komarowska Medical University of Lodz, Poland Presenting author: Izabela Niziołek Tutor(s): Agnieszka Byrwa

Introduction: Nowadays there is a lot of discussion about importance of mothers in providing infant's care and their role in it is commonly known. However, father's role is unheralded, so how exactly does the father's picture of taking care of a neonate look like?

Purpose: The aim of the study was to analyze father's role in taking care of an infant, to evaluate how he manages his role, and to verify his knowledge.

Material and methods: A questionnaire survey was conducted among 53 randomly selected fathers of newborns aged to 28 days. Surveys were anonymous, consisted of 25 questions, both single and multiple choice. The study was conducted in the Department of Pediatric, Neonatal Pathology and Metabolic Bone Diseases and via Internet.

Results: In the study group, 92.4% (n=49) fathers know in which week their child was born, of which 93.9% (n=46) were born on time and 92.4% (n=49) of all newborns were born with normal body weight. Family childbirths are becoming more and more popular, therefore 66% (n=35) of fathers were present at the delivery. 52.8% (n=28) of all neonates came into the world by the ways of nature, however, cesarean sections still constitute a large percentage (39.6%, n=21). The remaining percent are forceps or vacuum deliveries (7.5%, n=4). 84.9% (n=45) fathers give vitamin D3 supplements their children. They also provided their input in prenatal care by consultations with a pregnancy gynecologist - 54.7% (n=29) or by attending antenatal classes (41.5%, n=22). The more parents are inconsistent regarding childcare the less time father spends with child (p=0,0040). They obtain knowledge regarding parenthood and childcare from family (69.8%, n=37), the Internet (62.2%, n=33) and from doctors and midwives (58.4%, n=31). None of the fathers stated that he is more responsible for taking care of the child than his partner, while 66% (n=35) answered that responsibilities should be equally divided between both parents. 96.2% (n=51) of the fathers are happy in their role and the more the father hugs his child the more the child smiles at his presence (p=0,005). All of the respondents were vaccinated, while this practice will be continued to their children by 96.2% (n=51) of fathers and 73.5% (n=39) of the respondents will provide their children recommended vaccination as well.

Conclusions: Among the study group, 100% stated that the basic role of the father in the family is to "secure material existence". Interesting is the information about taking responsibility for child care, where fathers are in favour of equal division of roles and 34% indicate the dominant role of the mother. Optimistic is that 96,2% of the fathers are happy in their role and that 96,2% of all the respondents are supporters of compulsory vaccinations.

CLINICAL AND ETIOLOGICAL PROFILE OF NEONATAL SEIZURES IN A TERTIARY CARE CHILDREN'S HOSPITAL IN RIGA, LATVIA.

Author(s): Inese Sileniece Rīga Stradiņš University, Latvia Presenting author: Inese Sileniece Tutor(s): Ilze Meldere, Jurgis Strautmanis Lelde Liepina

Introduction

In this study we feature the seizure presentation, onset, EEG findings and etiology in term and preterm neonates admitted to the Neonatal Intensive Care Unit (NICU) of Children's Clinical University Hospital (CCUH), Riga, Latvia.

Aim of the study

Outline the differences of seizure cases in term and preterm neonatal patients and find the occurrence of clinically identified neonatal seizures in the NICU of tertiary care center, Riga, Latvia in 2019.

Material and methods

The study is a retrospective review of medical records from all neonates (n=343) admitted to the NICU of CCUH, Riga, Latvia from January 1, 2019 to December 31, 2019. Corresponding data was collected in MS Excel, statistical analysis carried out in IBM SPSS software.

Results

In total 53 (25 female, 28 male) neonates with clinically detected seizures were included in the study, of those 25 born in term (\geq 37 GW), 28 born preterm (<37GW). The type of seizures in term (T) and preterm (PT) neonates were identified respectively: clonic T=36% (n=9), PT=28.6% (n=8); tonic T=32% (n=8), PT=17.8% (n=5); sequential T=24% (n=6), PT=42.8% (n=12); mioclonic T=4% (n=1), PT=3.6% (n=1); EEG positive seizures T=4% (n=1), PT=3.6% (n=1). Accompanied symptoms in term and preterm newborns occurred respectively: desaturation T n=8, PT n=18; apnoea T n=2, PT n=13; bradycardia T n=5, PT n=11; salivation T n=5, PT n=3. In term newborns 52% (n=13) of 1st seizure episode occurred within 24 hours after birth, but 24% (n=6) between 24 hours and 72 hours, whereas in prematures 57% (n=16) manifested after 7th day of life, but 25% (n=7) between 72 hours and 7th day of life. Out of 39 (19 T, 20 PT) patients who had data on EEG results 68% (n=13) of term newborns and 85% (n=17) of preterm newborns had epileptiform activity confirmed. Significant etiologic factors in term neonates were hypoxic-ischaemic encephalopathy (HIE) (44% (n=11)), intracranial hemorrhage (24% (n=6)) and perinatal stroke (12% (n=3)); while in prematures intracranial hemorrhage (68% (n=19)) and HIE (25% (n=7)).

Conclusions

The frequency of neonatal seizures was 15.5% of all admitted neonatal patients in NICU of CCUH, Riga, Latvia in 2019. More common in term newborns were clonic seizures, whereas in preterms sequential, frequently accompanied by autonomic symptoms such as desaturation, apnoe and bradicardia. The occurrence of 1st seizure episode in term newborns was frequent in the first 24 hours, but in preterms after the 7th day of life. From patients who had data on EEG results 68% of term and 85% of preterm newborns had epileptiform activity confirmed. Significant role for occurrence of seizures in term neonates had HIE, but in prematures intracranial hemorrhage. In conclusion, data propose that a pattern of seizure etiology with specific clinical features might be helpful to anticipate the event of seizures in term and preterm neonates.

CHILD SAFETY COUNSELLING - THE PRIMARY CARE PHYSICIAN'S APPROACH IN LITHUANIA

Author(s): Jorinta Kazlauskaitė, Austėja Kindurytė Vilnius University, Lithuania Presenting author: Jorinta Kazlauskaitė Tutor(s): Arunas Valiulis

Introduction. Primary care physicians are the essential link to children who are victims of violence or had unintentional injuries. Residency programmes do not always succeed in teaching sufficient knowledge and skills, that are required for effective child safety counselling. Successful child injury prevention leads to lower children mortality rate and ensures normal biopsychosocial development of the child.

Aim of the study. To investigate the primary care physician's point of view towards child safety counselling. Material and methods. 54 physicians working in primary care centers and trained in pediatrics or family medicine answered an anonymous questionnaire. All physicians have been encountering pediatric patients in their clinical practice. Participants of the questionnaire were asked to provide general information and opinion on their role in child safety counselling. 26 physicians were trained in family medicine and 28 respondents were pediatricians.

Results. 51 (94.44%) physicians put an extra effort in order to suspect and notice children injuries. When provided with a list of 4 possible child abuse signs, it was noted, that physicians aged less than 50 years were more likely to identify signs of violence against children successfully (p=0.02887). The mean physician 's score was 2.12/4. Only 6 (11.11%) physicians felt like they were actively engaged in childhood trauma prevention, 12 (22.22%) felt partially engaged, 26 (48.14%) minimally engaged, 10 (18.51%) believed they had not enough knowledge and were not participating in prevention. When suspecting violence against a child 29 physicians (53.7%) would contact child protective services, 13 (24.07%) would consult their colleagues, 10 (18.51%) would approach parents, 2 (3.7%) would talk with the child. 15 (27.77%) physicians agreed that informing parents about childhood trauma prevention was their responsibility, 15 (27.77%) partly agreed with this statement, 8 (14.81%) did not have an opinion, 11 (20.37%) - partly disagreed, 5 (9.25%) completely disagreed, stating that other services were accountable for this task.

Conclusions. Only half of physicians consider child safety counselling a moral duty. A minor percentage of physicians feel actively engaged in child safety counselling. It is hoped that this study will stimulate further research in this field.

Factors influencing parental decision-making for their children about vaccination in Kyiv

Author(s): Nausheen Ansari, Grechuha Y.O.
Md Danish, Deepanjali Yadav
O.O. BOGOMOLETS NATIONAL MEDICAL UNIVERSITY, Ukraine
Presenting author: Nausheen Ansari
Tutor(s): Gnyloskurenko G.V.

Introduction: The vaccination is one of the greatest medical achievements in human history.

Despite the fact vaccine hesitancy remains a global threat and as a result promotes the outbreaks of vaccine preventable disease. The group of people with vaccine hesitancy is very heterogeneous and the influencing factors varies on the country.

Aim:

This study seeks to assess the factors influencing parental decision-making about vaccination.

Materials and methods: For this cross-sectional study among parents , the questionnaire method developed by the European Academy of Paediatrics Research in Ambulatory Setting Network (EAPRASnet) was used . The study was conducted among 795 parents

whose children were treated in patiently at Children's clinical hospital, kiev Ukraine. The survey contains groups of people with different response formats:

variations of multichotomous type of response and 5-point Like rt scale. We analysed following factors which influenced the decision about vaccination (gender of parents, their age, education, consultation with doctors). The data collected from the questionnaire were processed

with the Microsoft Excel software and analysed statistically

with Statistical Package for Social Science (SPSS version 12.0)

Results: Analysis showed that 86.1 % of parents who got the consultation from paediatricians and 83.2% who were consulted by family doctors believe that vaccines are effective, compared to the 60.7% (p<0.01) of parents who got the consultation by other specialists.

"The vaccination of children is important" was acknowledged by 81.5% of parents with higher university degree whereas only 67% of parents (p \leq 0.05) who graduated from high school agreed to the above statement. The statement that "I only vaccinate my child because it is required for kindergarten admissions" was supported by 4.5% of highly educated parents and 15.3% by another parents. 94.9% of Parents between age of 17-24 years old accept that children should get vaccination as compared to 85.1% of parents of age 25+ years (p <0.05).

Đ; onsidering gender 91.9% of men believe that vaccination is important, compared to 84% of females. About 96-98% parents got the negative information about vaccination form mass media, doctors etc.

Conclusion: Our study shows that major part of population still believe in the importance of vaccination. simultaneously there is a range of factors revealed by this study which influenced vaccine hesitancy. Taking into account, this information further needs monitoring and identification of factors which will help to enlighten common people about vaccination, developing strategies of vaccines, work and education of healthcare workers.

OBSTACLES IN PRIMARY CARE PHYSICIAN'S WORK CONTRIBUTING TO DIFFICULTIES IN CHILDHOOD INJURY PREVENTION IN LITHUANIA

Author(s): Austėja Kindurytė, Jorinta Kazlauskaitė Vilnius University, Lithuania Presenting author: Austėja Kindurytė Tutor(s): Arunas Valiulis

Introduction. Primary care physicians try to inform and educate children, parents and the society about injury prevention. Despite their efforts, juvenile traumas are still a huge public health problem. There are a number of factors that may act as a barrier to child safety counselling in primary care setting.

Aim of the study. To investigate the barriers in primary care setting that contribute to difficulties in children trauma prevention.

Material and methods. The study took place in primary care centers and involved a total of 54 medical practitioners. 28 of them were specialized in pediatrics and 26 were general practitioners. All of the respondents currently consulting pediatric patients answered an anonymous survey. Physicians were questioned about their participation in children injury prevention. Various factors that doctors perceived as barriers to effective child injury prevention in primary care setting consulting were explored.

Results. When asked about the main obstacles in their clinical practice that contribute to inability to participate in children injury prevention, 51.85% responders highlighted the shortness of time during the patient visit. Other factors mentioned were lack of educational material (27.77%), lack of financial incentives (12.96%), lack of knowledge and experience in childhood trauma prevention (3.7%) and absence of government support (3.7%). Medical practitioners noted that the most convenient means of deepening their knowledge about childhood trauma and its prevention could be reading resources (29.62%), possibility of direct communication with local services specialized in childhood injury prevention (27.77%), participation in scientific conferences focused on this topic (22.22%), social media (18.51%), 1 responder (1.85%) was not interested in learning about this topic.

Conclusions. As stated by respondents, the greatest obstacles in efficient childhood injury prevention are shortage of time during the patient visit, lack of educational material, governmental and financial support. Further large-scale study is needed in order to confirm these tendencies.

Nocturnal non-dipping on 24-h Ambulatory Blood Pressure Monitoring in obese children and adolescents

Author(s): Adam Stępień, Katarzyna Ciuk Marta Bociąga Jagiellonian University Medical College, Poland Presenting author: Adam Stępień Tutor(s): Małgorzata Wójcik, Jerzy Starzyk

Introduction

Obesity is associated with abnormal nocturnal dipping of blood pressure (BP) in adults, which has significant negative impact on health outcomes. Few studies indicate the occurrence of this phenomenon in 35-50% of obese children and adolescents. Little data is related to the potential association between abnormal circadian rhythm of BP in children and the metabolic complications of obesity.

Aim of the study

The aim of the study was to evaluate the association between obesity, its metabolic complications and nocturnal non-dipping in children and adolescents.

Materials and Methods

In 207 obese children (mean BMI SDS 4.72, range 2.07-10.74), 97 (46.9%) boys, mean age 13.3 (range 2-17) standard 24-h ABPM was performed using an Ambulatory BP Monitor (Space labs 90217, USA). The calculation of nocturnal dipping was based on a formula by the American Heart Association: [(mean day BP- mean night BP)/ mean day BP] texttimes 100. Normal dipping was defined as a \geq 10% decline in BP. Biochemical analysis included fasting glucose, and lipid profile.

Results

In all participants $\geq 70\%$ of successful BP measurements were received. In total there were 106 (51.21%) cases of non-dippers. The mean 24-h nocturnal systolic BP reduction (%) was 9.9±5.5. The mean 24-h nocturnal diastolic BP reduction (%) was 15.8±8.5. There was no significant differences between non-dippers and dippers regarding fasting glucose (4.6 vs. 4.8 mmol/L), LDL cholesterol (2.64 vs. 2.51 mmol/L), HDL cholesterol (1.06 vs. 1.03 mmol/L) and triglycerides (1.36 vs. 1.34 mmol/L) levels. Total cholesterol level was significantly higher in non-dippers (4.34 vs. 3.99 p=0.03). There was a significant correlation between BMI SDS and mean day-time SBP (r=0.14 p=0.042). There are positive correlations between 24-h heart rate (beats/min) and BMI SDS (r=0.15 p=0.027), between fasting glucose and systolic BP SDS (r=0.17 p=0.03), between mean diastolic BP and LDL cholesterol (r=0.23 p=0.004).

Conclusions

Over half of pediatric obese patients have nocturnal non-dipping. Higher BMI SDS is associated with higher mean day-time SBP and 24-h heart rate. Patients with higher LDL cholesterol levels have higher mean diastolic BP values as well. Non-dippers present with higher total cholesterol levels.

Risk factors for ventriculoperitoneal valve implantation in paediatric patients with posthemorrhagic hydrocephalus of prematurity treated with subcutaneous reservoir.

Author(s): Adam Bębenek, Magdalena Zgoda Jagiellonian University Collegium Medicum, Poland Presenting author: Adam Bębenek Tutor(s): Stanisław Kwiatkowski

Introduction:

Posthemorrhagic hydrocephalus of prematurity (PHHP) is a result of intraventricular haemorrhage (IVH) caused by the effusion of blood in the immature periventricular region of the brain called the germinal matrix which appears mainly (50%) within first 24 hours after birth. IVH occurs in 6-23% of preterm infants in countries with advanced medical health care. Risk of IVH depends on the volume of the germinal matrix being highest in 23 hbd. PHHP diagnosed in 36-50% of infants after IVH is treated primarily with

subcutaneous reservoir and most of these patients need the ventriculoperitoneal valve shunt eventually. Aim of the study:

The purpose of this study was the assessment of the risk factors for implantation of the ventriculoperitoneal valve in paediatric patients diagnosed with posthemorrhagic hydrocephalus of prematurity treated with subcutaneous reservoir.

Methods:

The retrospective study was conducted evaluating 35 patients (2011-2018), with at least III grade in Papile's IVH scale, who was treated with subcutaneous reservoir. Patients gestational age varied between 23 and 35

(mean: 29 hbd, median: 28 hbd). The assessment included agents associated with a fetal period such as prematurity, gestational age, birth weight, intrauterine malalignment or infection. Postparturient period agents such as the IVH grade, age of IVH diagnosis, the postconceptional age of IVH diagnosis and body weight on subcutaneous reservoir implantation. Both peri- and postprocedural complications such as bacterial CSF infection, haemorrhage or wound dehiscence were evaluated. Data were calculated with TIBCO Statistica.

Results:

From among 35 patients with posthemorrhagic hydrocephalus treated with subcutaneous reservoir who were assessed in this study, 23 (65,71%) received a ventriculoperitoneal valve shunt. Median of birth weight was 1195 grams. Intrauterine malalignments and infections were observed in 8 and 6 patients respectively. Mean for the age of IVH diagnosis was 2 weeks. Mean body weight on the implantation of the subcutaneous reservoir was 2095 grams. Periprocedural complications occurred in 20 patients. None of the evaluated agents has proven its statistical significance (p>0.05) for being a risk factor for implantation of the ventriculoperitoneal valve shunt.

Summary:

PHHP is still a challenge for health care systems worldwide. Advancement in medicine allows to rescue early preterms but for the price of the increased incidence rate of neonatal complications with IVHs among them. The number of patients who didn't receive a ventriculoperitoneal shunt reached almost 35% what suggests many undiscovered agents influencing outcome defined as a permanent intervention. Further studies are needed to reveal new possible ways to treat PHHP efficiently.

Aetiology and clinical characteristics of first episode of acute pancreatitis in children: a 9-year retrospective study

Author(s): Martyna Sokół, Aleksandra Żaczek Joanna Radulska Medical University of Lublin, Poland Presenting author: Martyna Sokół Tutor(s): Paulina Krawiec

Introduction

Recognition of acute pancreatitis (AP) in children has been increasing over the last decades. It may reflect a real increase in incidence or physicians' greater awareness of paediatric AP. Until now current knowledge of AP in a children is limited.

Aim of the study

We aimed to evaluate aetiology and clinical course of first episodes AP in children.

Material and methods

We analysed medical records of patients hospitalized due to first episode of AP in the Department of Paediatrics and Gastroenterology, Medical University of Lublin from January 2011 to December 2019. Patients' age, gender, clinical symptoms and recurrence rate were analysed.

Results

The study group consisted of 72 patients including 37 (51%) boys and 35 (49%) girls. The age of patients ranged from 2 to 18 years with the median 12 years of age. Boys and girls did not differ significantly in terms of age at AP onset (Z=-0.15; p=0.6).

The vast majority of AP cases was diagnosed in the recent 4 years (45; 62.5%).

In most of patients the cause of AP was not established (31; 43%). In 16 cases (22%) AP was preceded by infection. In 13 (18%) cases toxic AP was diagnosed including 10 cases with medication-associated AP and 3 cases with alcohol-induced AP. Biliary pancreatitis was recognised in 6 (8%) children The 3 cases (4%) of AP were associated with diet mistake, 2 cases (3%) were preceded by abdominal surgery and 1 case (2%) by abdominal trauma.

On admission 67 (93%) patients presented with abdominal pain, 47 (66%) vomiting, 20 (28%) nausea, 18 (25%) fever, 15 (21%), loss of appetite, 12 (17%) diarrhoea, 5 (7%) back pain. The most frequent signs on physical examination were: epigastric tenderness (64; 89%) and muscle defence in this area (35; 49%) followed by tachycardia (7; 10%), hypoactive bowel sounds (5; 7%) and diminished vesicular breath sound at the posterior lung bases (5; 7%).

Elevation of serum lipase greater than three times the upper limit was stated in 71 (98.5%) children, while significant increase of serum amylase was found in 45 (37.5%) children. All children underwent abdominal ultrasound, in 10 (14%) children computed tomography was required.

Most of AP were mild or moderate, only in 1 case (2%) there was a need of transition to intensive care unit. In the study group 22 children (30.6%) were hospitalized due to second and subsequent episode of recurrent pancreatitis. Although patients with recurrent AP were younger (mean: 10 ± 4.5 ; median: 9 yrs) than those with incidental AP (mean: 12 ± 5 yrs; median: 13.5 yrs), it was not statistically significant (Z=1.82; p=0.07).

Conclusion

Paediatric AP is an increasing health care issue. Although in the majority of cases the aetiology of AP remains unknown, important causes of AP are infections, medications and cholelithiasis. In the study group recurrence of AP affected one third of children particularly the youngest ones. Further studies are needed to determine risk factors of recurrent AP.

Primary Osteoporosis - is bisphosphonate treatment sufficient?

Author(s): Mariusz Olczyk, Agnieszka Byrwa Elżbieta Jakubowska-Pietkiewicz Medical University of Łódź, Poland Presenting author: Szymon Krasiński Tutor(s): Agnieszka Byrwa

Introduction:

Idiopathic osteoporosis is a disease, which is very rarely observed in paediatric population. The most common type observed in a young age is secondary osteoporosis, mainly in endocrynological diseases or connective tissue affliction. Primary osteoporosis, which etiology still remains unknown, can have very varied course. Pain located in vertebral and limb region, as well as bones fractures inadequate to the severity of injury can be observed in people who were healthy up to now. Bisphosphonates, medicaments which lessen the resorption of the bone, found application in treatment of osteoporosis. However, due to the rarity of this condition, the course of the therapy requires further research.

Aim of the study:

Assessment of the impact of bisphosphonates on improvement of mineral bone density and comparision of the course of treatment in patients with primary osteoporosis.

Material and methods: In a retrospective research, the documentation of 5 patients with diagnosed primary osteoporosis was analyzed. They were hospitalized I n the Department of Paediatric and Metabolic Bone Diseases of Medical University of Lodz from June 2017 to January 2020. The research results of calcium-phosphate metabolism, densitometry and previous fractures were compared.

Results: In a study group the average age of primary osteoporosis was 12 years 8 months old. Every patient had undergo fractures before the bisphosphonate treatment was inducted. The most common were fractures of vertebrae (4 out of 5 patients), then there were forearm bones fractures (2 out of 5 patients). After the treatment was started there were no fractures noted. On admission, reduced mineral bone density at the level of -1,625 for Total Body Z-SCORE and -2,8 for Spine Z-SCORE was observed. In laboratory tests in 3 out of 5 patients increased level of alkaline phosphatase was observed, as well as vitamin D3 deficiency in 2 out of 5 patients. After bisphosphonate treatment an improvement in densitometry parameters was observed. However in every case, the commencement of the treatment was associated with a temporary decrease of total calcium level in blood, in one case below referential level and decreased value of ionized calcium under the norm (average 0,982 mmol/l) in every case. Both of aforementioned parameters didn't give any clinical symptoms.

Conclusions: Bisphosphonates seems as an effective treatment in case of primary osteoporosis in a young age. Despite the decreased bone density observed in every patient's case, further fractures don't occure after inducing the treatment, densitometric parameters improve and the side effects such as hypocalcaemia are asymptomatic. Nevertheless the parameters of calcium-phosphate metabolism have to be strictly controlled during the therapy. Researches regarding this condition should be continued, mostly to determine it's etiology.

Sudden Infant Death Syndrome

Author(s): Diana Marańska, Remigiusz Chrostek Urszula Chrostek, Marta Zmroczek Wrocław Medical University, Poland Presenting author: Diana Marańska Tutor(s): Lilianna Styka

Introduction: Sudden Infant Death Syndrome remains one of the most common causes of infant death during the first year of life in the world. Sudden deaths of seemingly healthy children, despite the significant development of medicine, remain a mystery and are of a great concern to parents. Numerous scientific studies exploring the pathogenesis and risk factors of SIDS and the guidelines issued on their basis have resulted in a decrease in infant mortality due to "a cot death". In 2016, the American Academy of Pediatrics (AAP) presented new guidelines for the prevention of SIDS, which all parents as well as physicians dealing with infants should be familiar with.

Aim of the study: The aim of the study was to evaluate parents 'knowledge of SIDS risk factors and to assess the exertion of prevention rules.

Materials and methods: The paper uses a proprietary questionnaire distributed over the Internet. The survey was created on the basis of the latest AAP recommendations on SIDS prevention using all the guidelines contained in it with the strength of Recommendation A (11 recommendations). The research group (n=2000) consisted of parents of children under 12 months old.

Results: Parents were able to correctly refer to 6 out of 11 recommendations on average. Most of the respondents were able to safely characterize the cot death (89. 4%) and indicate the correct place to sleep (63. 4%). There is also widespread knowledge of the risks associated with parental smoking (75. 8%) and alcohol (83. 3%). It is worrying that only 48. 7% of the parents surveyed indicated the position on their back as the safest for the child. A minority of parents knew that giving a dummy to their child to sleep could prevent SIDS (21. 8%) and only 9. 2% know that vaccination also prevents it.

Only 44. 7% of children sleep on their own cot placed close to their parents 'bed. In the cot of 21. 8% children there are loose, soft objects such as the toys which are a direct danger to the baby. Half (47. 4%) of parents report that their child is overheated. 21. 3% of children are not vaccinated according to the vaccination calendar. Data from our survey also shows that health care professionals occasionally inform parents about SIDS risk factors. Only 14. 1% of parents in the neonatal unit, 12. 3% during a visit to a community midwife and 6. 2% during a visit to a paediatrician obtained such information.

Conclusions: Parents' knowledge of SIDS is at a low level. Unfortunately, due to lack of proper, up-to-date knowledge they often make mistakes while putting their child to sleep, which can result in the child 's death. It is probably due to the fact that health professionals are too rarely informing about SIDS, which should be a source of up-to-date EBM-based knowledge for parents. Providing information to parents about the risk of SIDS by doctors and midwives and conducting media campaigns on the subject would increase parents' knowledge and thus increase the safety of infants.

PARENTS APPROACH TOWARDS THEIR CHILD'S ILNESS SEVERITY AND MEDICAL ASSISTANCE URGENCY WHILE ATTENDING ADMISSIONS AND EMERGENCY DEPARTMENT

Author(s): Viktorija Šutova Vilnius University, Lithuania Presenting author: Viktorija Šutova Tutor(s): Sigita Burokiene

INTRODUCTION: An increasing number of children attending Admissions and Emergency aid department is visible annually. This leads to overcrowding of waiting rooms and difficulties in providing timely qualit ative medical services for severe-condition patients. Understanding parents' approach towards their child's health condition and the motives of arrival may help to find appropriate solutions.

OBJECTIVES: To clarify parents' attitude to their child's health, aid applied at home before arrival and the reasons of seeking medical assistance at the pediatric Emergency Department.

METHODS: A two-part original questionnaire was developed and distributed to parents of 200 pediatric patients, who visited Admissions-Emergency aid department of Vilnius University Children's Hospital in February - March 2019. Descriptive statistics methods, a chi-squared test and Pearson correlation coefficient were used for statistical analysis. The confidence level of 95% was selected. Statistical analysis is performed using Microsoft Excel 2016 and MedCalc programs.

RESULTS: 200 children were included in the questionnaire survey. The average age of participants was 4 years 7 months (from 1 to 214 month-old). The vast majority of parents were in the age range of 26-35, having attained higher education of university sector. This group of respondents tends to evaluate their child 's condition as more threatening and seek for emergency aid earlier than other participants. According to higher-level educated parents, Admissions and Emergency aid department is the most trustworthy place to bring their child. There were two portions of respondents whose decision to arrive was mostly affected by media: middle aged (26-35) higher-level educated parents and young parents in age range <25 of any education level (p<0.05). Almost a half of the parents participating in the study took the decision to come to Emergency Department themselves, without doctor's referral. The substantial majority of parents (62%) stated this was due to prolonged waiting for the primary outpatient healthcare services. Febrile fever was the prevalent complaint among patients coming to E&A Department. 85% of feverish children arrived, have already received at least one dose of antipyretics at home (p<0.05). Among parents who applied any aid at home, 44% of arrivals were due to home-administered medication inefficiency, in 56 % the decision taken was also determined by other factors. 100% and 92% of those parents accordingly have attained higher education level.

CONCLUSION: Parents attitudes towards their child's health and reasons of arrival were determined by demographic factors of participants, primary healthcare specialist consultation, mass media influence, homeadministered medication inefficiency, poor general health condition and chronic diseases.

KEY WORDS: pediatric emergency department, parents 'attitude, primary outpatient medical care

Analysis of qualification to post-exposure vaccination against rabies in children.

Author(s): Anna Wieczorek, Aleksandra Ostrowska Katarzyna Zabłocka Medical University of Warsaw, Poland Presenting author: Anna Wieczorek Tutor(s): Maria Pokorska-Śpiewak, Carlo Bieńkowski

Introduction: Rabies is a fatal, infectious disease caused by the Rabies virus. It is usually caught from bites of sick animals. There are no rabies noticed in Poland since 2003 but the illness is still dangerous to humans due to reported cases among animals. Because of the fact that effective curative treatment does not exist, pre- and post-exposure prophylaxis is extremely important in terms of prevention from the infection. Series of inactive vaccines and potentially specific immune globulins are applied for patients suspected to be in contact with the pathogen. Vaccination can be performed in two ways: Essen - single doses on days 0, 3, 7, 14, 28 or Zagrzeb - double dose on day 0 and a single one on days 7 and 21.

Aim of the study:

The aim of the study was to characterize children potentially exposed to Rabies virus. Circumstances of exposure, attacking animals and frequency of post-exposure prophylaxis were also analyzed.

Material and methods: Retrospective epidemiological analysis of 494 pediatric patients at the age range of 10 months to 17 years and 11 months (median 10 years 8 months), who were admitted to the Department of Children's Infectious Diseases of Medical University of Warsaw for the sake of bite, scratch or salivate by animals from 26.10.2015 until 24.11.2019.

Results: Analysis revealed that boys were affected more frequently (51.21%, 253/494), whereas the most commonly biting animals were dogs (70,24%, 347/494), rarer cats (16,4%, 81/494) or bats (2,43%, 12/494). The patients had contact mainly with tamed animals (72,67%, 359/494) indepently to area of exposure (town, countryside or abroad, p=0,003). The dominant type of exposure was a bite (92,51%, 457/494), in the town and abroad mostly in hand (97/340, 28,53%), in the countryside in leg (41/112, 36,6%, p=0.000048). Surgical wound care was necessary at most during exposure in the town (64/323,p=0,043). The vaccination was performed in 412 cases, usually (80,83%, 333/412) in Essen scheme of which 9,22% (38/412) were not completed, partially due to negative results of veterinary observation of the animal (36,84%, 13/38).

Conclusions: Rabies can be prevented due to appropriate prevention, therefore if biting of children occurs, a complete prophylaxis scheme should be implemented. The statistically significant results of the study (p<0.05) may be crucial during first-aid to patients affected by pets, especially in case of incomplete medical history.

The relationship between duration of breastfeeding and socio-demographic factors: age, social and marital status

Author(s): Julija Rutenbergė Galumbauskienė Vilnius University, Lithuania Presenting author: Julija Rutenbergė Galumbauskienė Tutor(s): Jurate Peceliuniene

Introduction. Socio-demographic factors are found to be relevant to the duration of breastfeeding (DB). Aim of the study was to evaluate the relationship between socio-demographic factors- age, social and marital status with DB in breastfeeding mothers (BFM).

Material and methods. 620 BFM were recruited via the Internet by using a breastfeeding questionnaire, developed by the authors. Mothers were asked for a how long they are breastfeeding, and 4 groups were made: 1st (<6 months) - 33.7% (n=209), 2nd (6-12 months) - 25.3% (n=157), 3rd (12-24 months) - 31.1% (n=193), 4th (24+ months) - 9.8% (n=61). Sociodemographic information on social and marital status were collected; 4 age groups were grouped: A (18-25 yrs.) - 8.9% (n=55), B (26-30 yrs.) - 41.1% (n=255), C (31-35 yrs.) - 39.0% (n=242) and D (36+ yrs.) - 11.0% (n=68). Pearson correlation coefficient and chi-square test analysis were used.

Results. BFM of group B were breastfeeding shorter- 60.4% (n=154) were in the 1st group and 39.6% (n=101)- the 2nd, compared to C group -23.1% (n=56) were in the 2nd group and 76.9 % (n=186)- the 3rd, while BFM of D group were respectively breastfeeding more long- 10.3% (n=7) were in the 3rd group and 89.7% (n=61)- the 4th, p=.0016.

Social status and DB relation was significant only in age group B: working BFM (81,2%; n=207) were breastfeeding more often shorter than 6 months (65,7% (n=136)) of those were in the 1st group and 34,3% (n=71) - the 2nd), compared to not-working BFM (9,0% (n=23)) (43,5% (n=10)) were in the 1st group and 56,5% (n=13) - the 2nd) and studying BFM (1.6% (n=4)) (50% (n=2)) were in the 1st group and 50% (n=2) - the 2nd), p=.0026.

82.4% (n=210) of shorter DB group B were married (62.4% (n=131) were in the 1st group and 37.6% (n=79) the 2nd); 14.9% (n=38) were single (44.7% (n=17) -1st group and 55.3% (n=21) the 2nd); 0.8% (n=2) of BFM were divorced and all were in the 1st group, 2.0% (n=5) of BFM were widows (80% (n=4) - 1st group and 20% (n=1) - 2nd), p=.018. In group D, 80.9% (n=55) of BFM were married (10.9% (n=6) were in the 3rd group and 89.1% (n=49) the 4th); 14.7% (n=10) of BFM were single and all were in the 4th group; 1.5% (n=1) of BFM divorced and she was in the 3rd group, 2.9% (n=2) of BFM were widows and both of them were in 4th group, p=.017.

Conclusion. Maternal age is related to duration of lactation. Social status and DB are significant in BFM of the age 26-30. Significant relationship between DB and marital status is in BFM of the age 26-30 and 36+.

Different Features of Clinical and Laboratory Characteristics in Children with a Confirmed Diagnosis of Celiac Disease: A Two Centre Study

Author(s): Laine Beķere, Krista Skrējāne Tereza Sasínková, Anna Beāte Apsīte Riga Stradiņš University, Latvia Presenting author: Laine Beķere Tutor(s): Ieva Pukite, Jan Melek Liene Nikitina-Zake, Dace Gardovska Dace Gardovska, Liene Smane

Introduction. Celiac disease (CD) is a multifactorial autoimmune condition that affects the small intestine by an immune-mediated response to gluten in genetically susceptible individuals with HLA DQ2.5 or DQ8 haplotypes. Prevalence estimated approximately 1% of the European population. [1,2] ESPGHAN 2012 guidelines allowed serology-based diagnosis with no-biopsy approach in selected cases, unfortunately full adherence is limited by selective measurement of EMA and HLA typing. [3,4]

Aim. To evaluate the clinical, laboratory characteristics of paediatric CD patients diagnosed either in Riga or Hradec Králové, as well as to analyze the prevalence of HLA-DQ2/DQ8 genes and their possible influence on CD manifestation.

Materials and methods. An international collaborative retrospective study was conducted for patients aged 0-18 years with newly diagnosed CD, admitted at the Children's Clinical University Hospital, Latvia (2008-2018) and Department of Paediatrics of University Hospital Hradec Králové, Czech Republic (2004-2020). Data was compiled from ambulatory cards and electronic medical records. Inclusion criteria: symptomatic or risk group patients with newly diagnosed CD (ESPGHAN 2012 criteria) with Marsh 3 lesion on biopsy and/or positive serology (tTG IgA/tTG IgG/EMA IgA). 495 patients were enrolled - 192 Latvians, 303 Czech. The analysis was performed using MS Excel 2015 and IBM SPSS Statistics 22.

Results . An increased prevalence of CD was found among females - 55.2% in Latvians and 66.0% in Czechs (p=0.016). Age ranged 0.5-17 years (median [IQR]) was 5.9 [3.5-8.4] in Riga, and 6.6 [4.7-9.2] in Hradec Králové, p = 0.02.

Latvian children showed an increased prevalence of CD gastrointestinal presentation (p<0,001). Silent form is more common in Czech children in comparison to Latvian (p<0,001). Compare to Latvian patients, not all Czech patients (67.3%) had biopsy (91.9% were EMA IgA+). HLA-DQ gene analysis was performed in 46.4% of Latvian and 36.6% of Czech CD patients. Comparing haplotypes, in Czech HLA-DQ8+ patients anaemia (p = 0.05) prevailed as symptom, but for HLA-DQ2.5+ Latvian individuals abdominal pain (p = 0.021) and failure to thrive (p = 0.044) were characteristic symptoms. Positive family history was more common in Czech patients (20.8%) than Latvian (7.8%) (p <0.001).

Conclusion. The study demonstrates a diverse clinical presentation of paediatric CD. Anaemia was significantly more often associated with HLA-D8 haplotype in Czech patients. In Latvian children HLA-DQ2.5 was associated with abdominal pain and failure to thrive.

Colourful but hazardous: Analysis of children's exposure to laundry detergent pods

Author(s): Dominika Madras, Agata Rocka Faustyna Piędel, Paulina Krawiec Medical University of Lublin, Poland Presenting author: Dominika Madras Tutor(s): Paulina Krawiec

INTRODUCTION:

Laundry detergent pods have become more popular than traditional powdered or liquid detergents. However, their colourful appearance and pleasant aroma may mislead a child about their intended use and become a cause of poisoning. To the best of our knowledge until now there has been no study on laundry detergent pods' exposure in children in Poland.

AIM OF THE STUDY:

The aim of the study was to evaluate epidemiologic characteristic and clinical features of laundry detergent pods' exposure in children hospitalised at the Department of Paediatrics and Gastroenterology, Medical University of Lublin from 2014 to 2019.

MATERIAL AND METHODS:

Retrospective review of medical records of patients hospitalised due to the exposure to laundry detergent pods at the Department of Paediatrics and Gastroenterology, Medical University of Lublin from 01.01.2014 to 31.12.2019. The statistical analysis was carried out using the Statistica StatSoft v.13 program.

RESULTS:

During the six-year period of study 38 children including 19 (50%) boys and 19 (50%) girls were admitted to the Department of Paediatrics and Gastroenterology due to exposure to laundry detergent pods. The age of patients ranged from 11 months to 9 years old, with mean 48.61 ± 28.85 months and median 3 years and 3 months of age. About 66% of patients were younger than 5 years old.

Girls and boys did not differ significantly in terms of age age (Z=0.88; p=0.38). In the studied group, 20 children (53%) came from the city and 18 (47%) from rural areas.

Exposure to washing capsules most frequently occurred from Friday to Sunday (21;55.26%). On hospital admission, the type of pod was indicated by the parents of 17 (44.74%) patients.

The major route of exposure was ingestion (n=37;97%). Most of patients (n=27;71%) exhibit any symptom of exposure to the detergent pod. The most common symptoms were vomiting (n=23;60%), cough (n=7;18%) and salivation (n=5;13%). Dyspnoea was observed in 2 (5%) patients. Gastroscopy was performed in 7 (18%) patients. Positive findings in gastroscopy were noted in 3 out of 7 patients (43%). The most severe was corrosive injury of oesophagus grade 3a according to Zargar's classification. Chest X-ray was done in 27 (71%) of patients while abnormalities were stated in 11 out of 27 children (29%).

CONCLUSION:

Accidental exposure to laundry detergent pods usually occurs in children younger than 5 years old. Although the majority of cases had mild or moderate clinical outcomes, ingestion of laundry detergent pods may lead to some severe consequences. There is a need to improve pods' packages and to increase parents' awareness of pods' toxic potential to reduce serious poisoning risk in children.

Analysis of diagnosis and treatment of urinary tract infections in pediatric patients.

Author(s): Joanna Winciorek, Paulina Formińska Monika Zach Medical University of Lodz, Poland Presenting author: Joanna Winciorek Tutor(s): Anna Baranowska-Jaźwiecka, Agnieszka Szadkowska

INTRODUCTION: Urinary tract infection (UTI) is the most common infection in children after respiratory tract infections, however clinical picture is not always unambiguous. The infection may have serious consequences and complications such as post inflammatory scar tissue in renal parenchyma. Basic tests that confirm the diagnosis are urianalysis and microbiological assays.

AIM: The purpose of this study was to analyse whether empirical antibiotic therapy corresponds to the most commonly found pathogens and their susceptibility, as well as to revise the validity of performed urine cultures in hospitalized patients.

MATERIALS AND METHODS: This was a retrospective study conducted on patients treated in Central Clinical Hospital's Pediatrics Centre in Lodz. The study was conducted in the period from December 2018 to November 2019. Clinical data was collected from patients' medical records. The data was analysed using statistical program Statistica.

RESULTS: We have studied a group of 399 pediatric patients (45% boys) with mean age of 7,5 years old. In 47,9% of the tested samples the results of the cultures indicated mixed flora. The most common pathogen in our study was E. coli (72,6%). Positive results were found in 56,4% of the microbiological assays, of which 27,9% were found in the upper urinary tract, and 28,6% in the lower urinary tract. In 41.4% of cases urine culture was not associated with clinical diagnosis of UTI. In only 2,14% of the cases the pathogens were antibiotic resistant. The most often used antibacterial drugs were Ceftazidime (14,3%) and Amoxicillin clavulanate (12,9%).

CONCLUSION: The quality of the investigated urine samples was questionable in almost half of the cases. In plethora of cases the antibiotics used had an overly broad spectrum.

Evaluation of very small embryonic-like stem cells (VSELs) in acute lymphoblastic leukemia pediatric patients in the course of therapy

Author(s): Anna Krętowska, Magdalena Krętowska Cezary Adam Grunwald , Małgorzata Kowalska Medical University of Bialystok, Poland Presenting author: Anna Krętowska Tutor(s): Kamil Grubczak

Introduction:

Acute lymphoblastic leukemia (ALL) represents malignant proliferation of lymphoid cells blocked at an early stage of cell differentiation. The overall survival rates of patients with ALL have shown great improvement in recent years, reaching approximately 90% in patients with good prognosis. Despite favorable efficiency of treatment, prognosis for the remaining 10% who have relapsed or show no improvement to treatment remains poor. Initial risk-based stratification of patients is critical in selecting therapy that will avoid excessive toxicity and maintain high cure rates concomitantly. Despite numerous studies on stem cells, there are no comprehensive data on the role of these cells in ALL. Very small embryonic-like stem cells (VSELs) are pluripotent stem cells expressing embryonic markers that have been investigated for their potential role as biomarkers in various diseases. However, to date, their involvement in the pathogenesis of ALL remains elusive.

Aim of study:

Here we aimed to investigate contribution of VSELs in pediatric acute lymphoblastic leukemia through analysis of their changes in bone marrow at different changes of treatment.

Materials and methods:

The study was carried out on 98 samples of bone marrow of pediatric patients with ALL. Group of 58 controls with no sign of inflammatory and cancer diseases were included. The bone marrow samples were derived from ALL patients at three different stages of treatment during diagnostic procedures. Patients were stratified additionally into standard (SR), intermediate (IR) and high (HR) risk groups. The samples were stained with fluorochrome-labeled monoclonal antibodies in order to distinguish Lineage-CD133+CD45+ VSELs. The data were acquire using FACSCalibur flow cytometer.

Results:

We observed that ALL pediatric patients before treatment exhibit higher levels of VSELs in bone marrow compared to the group of healthy controls (p=0,0010). Additionally, ALL patients in the IR group exhibit higher levels of VSELs in bone marrow before treatment compared to the evaluated control group (p=0,0037). Similar tendency was observed in patients in the HR group. VSELs levels in pediatric ALL patients at the time of diagnosis were the highest and have shown to gradually decrease in response to therapy applied.

Conclusions:

Higher levels of VSELs in pediatric ALL patients at the time of diagnosis in comparison to controls could prove essential role of these cells in the outcome of the disease. The decline of VSELs during ALL treatment could serve as a potential biomarker of response. However, further experiments are required for more in-depth evaluation of VSELs contribution to the pathogenesis of acute lymphoblastic leukemia (ALL).

Attitudes and practices in pain management: are we ever going to get better?

Author(s): Barbara Nowacka, Anna Wowra Medical University of Silesia, Poland Presenting author: Barbara Nowacka Tutor(s): Piotr Surmiak

Introduction: The physiological instability and underlying diseases of neonates involve various invasive medical procedures, such as endotracheal intubation or intravenous cannula insertion. While these procedures save infants lives, on the other hands exposure them to the pain which is a frequent phenomenon among young children in neonatal intensive care units. Lack of the pain relief can have long-term behavioural and physiological consequences.

Purpose: Thus, we aimed to investigate midwives and nurses' practices in pain assessment and management in different levels of care Neonatal Units. The obtained data we compared with the data obtained from medical student and their point of view of neonatal pain management.

Material and methods: The PAIN study (Prevention and Alleviation In Neonates) was designed as a cross-sectional study regarding the attitudes and experiences of midwives and nurses in Neonatal Units. This nationwide project was distributed through a web-based questionnaire. Participation was voluntary and all responses were anonymous. The questions were prepared to elicit information about demographic characteristics, current practice standards and pain education. The data collection was undertaken between November 2019 and February 2020. Questionnaires was also given to students from different medical schools.

Results: A total of 243 nurses and midwifes participated in the PAIN study. The majority of them (99%) were female in the age range of 20-40 years (80%). The pain assessment tools to assess pain in neonates are known by 81.07% (197/243)

of nurses and midwifes, but only 34% of them used the scales in recognising pain. Moreover, it was shown that employees of tertiary referral centres had significantly higher prevalence of the pain scale use compared with participants from another hospitals (p=0.04). Only 15.4% of respondents rated their clinical skills in the area of pain relief as satisfactory. Most nurses and midwifes (76%) based their pain management in non-pharmacological pain relief techniques. On the contrary, only 27.7% (69/249) of medical students indicated non-pharmacological methods as more effective strategy.

Conclusions: Although pain management has been an area of study over the past several decades, the findings of this survey highlight that a some knowledge gaps and different pain management practices exist. The results entrench the need for education about pain management in Neonatal Units.

Sudden Infant Death Syndrome

Author(s): Diana Marańska, Remigiusz Chrostek Urszula Chrostek, Marta Zmroczek Wrocław Medical University, Poland Presenting author: Diana Marańska Tutor(s): Lilianna Styka

Introduction: Sudden Infant Death Syndrome remains one of the most common causes of infant death during the first year of life in the world. Sudden deaths of seemingly healthy children, despite the significant development of medicine, remain a mystery and are of a great concern to parents. Numerous scientific studies exploring the pathogenesis and risk factors of SIDS and the guidelines issued on their basis have resulted in a decrease in infant mortality due to "a cot death". In 2016, the American Academy of Pediatrics (AAP) presented new guidelines for the prevention of SIDS, which all parents as well as physicians dealing with infants should be familiar with.

Aim of the study: The aim of the study was to evaluate parents 'knowledge of SIDS risk factors and to assess the exertion of prevention rules.

Materials and methods: The paper uses a proprietary questionnaire distributed over the Internet. The survey was created on the basis of the latest AAP recommendations on SIDS prevention using all the guidelines contained in it with the strength of Recommendation A (11 recommendations). The research group (n=2000) consisted of parents of children under 12 months old.

Results: Parents were able to correctly refer to 6 out of 11 recommendations on average. Most of the respondents were able to safely characterize the cot death (89. 4%) and indicate the correct place to sleep (63. 4%). There is also widespread knowledge of the risks associated with parental smoking (75. 8%) and alcohol (83. 3%). It is worrying that only 48. 7% of the parents surveyed indicated the position on their back as the safest for the child. A minority of parents knew that giving a dummy to their child to sleep could prevent SIDS (21. 8%) and only 9. 2% know that vaccination also prevents it.

Only 44. 7% of children sleep on their own cot placed close to their parents 'bed. In the cot of 21. 8% children there are loose, soft objects such as the toys which are a direct danger to the baby. Half (47. 4%) of parents report that their child is overheated. 21. 3% of children are not vaccinated according to the vaccination calendar. Data from our survey also shows that health care professionals occasionally inform parents about SIDS risk factors. Only 14. 1% of parents in the neonatal unit, 12. 3% during a visit to a community midwife and 6. 2% during a visit to a paediatrician obtained such information.

Conclusions: Parents' knowledge of SIDS is at a low level. Unfortunately, due to lack of proper, up-to-date knowledge they often make mistakes while putting their child to sleep, which can result in the child 's death. It is probably due to the fact that health professionals are too rarely informing about SIDS, which should be a source of up-to-date EBM-based knowledge for parents. Providing information to parents about the risk of SIDS by doctors and midwives and conducting media campaigns on the subject would increase parents' knowledge and thus increase the safety of infants.

Does raising with animals promote allergies in children?

Author(s): Anna Wiesner, Urszula Chrostek Magdalena Towarek, Remigiusz Chrostek Wrocław Medical University, Poland Presenting author: Anna Wiesner Tutor(s): Lilianna Styka

Contact with pets has a positive effect on children. It has been proved to decrease cortisol level, reduce the obesity risk, teach empathy and responsibility. Parents are often afraid to adopt a dog or cat because of the allergy risk in children.

The aim of the study was to analyse the occurrence of allergy symptoms in children raised with animals and without them.

The study used the original research questionnaire containing 7 questions about the most common symptoms of allergic diseases in children. The questionnaire was filled in by parents of children aged from 1 to 12 years old, separately for each child in the selected age range. The study group consisted of 1362 children.

Most of the children (58.1%) were raised with animals, majority with dogs (68.7%) and cats (45.5%). In most cases (73.1%) the animals had already lived at home before the child was born. In total, 68% of children were allergic or had allergy symptoms. The allergy had been previously diagnosed by a doctor in 35.9% of cases. The allergy symptoms were revealed basing on a questionnaire in 32% of cases. Allergic symptoms were found in 62.7% of children raised together with animals and in 75.3% (P < 0.005) of children grown up without animals. Allergies were rarely (58.25%) found in children who had been having a contact with animals since birth.

Basing on the available literature, data and the above study, it can be concluded that children raised with animals suffer from allergic diseases less often.

Comparison of Indications and Outcomes of Mechanically Ventilated Paediatric Patients Between Latvia and the United Kingdom

Author(s): Toms Dombrovskis Riga Stradins university, Latvia Presenting author: Toms Dombrovskis Tutor(s): Reinis Balmaks, Ivars Vegeris

Introducion. Mechanical ventilation is a life-sustaining technology in which a ventilator provides a full respiratory support for thousands of critically ill pediatric patients who cannot breathe on their own.

Objective. To make a comparison of indications and outcomes of mechanically ventilated paediatric patients in Latvia and in the United Kingdom.

Materials and Methods. This prospective descriptive study involved all hospitalization episodes for patients aged 28 days to 16 years of age who were admitted to Paediatric Intensive Care Unit (PICU) at Children's Clinical University Hospital (VSIA BKUS) from June 2017 to March 2019. Clinical data were collected and collated by using The Paediatric Intensive Care Audit Network (PICANet). As a focus group for comparison a British PICU simulated data set for 2004-2014 was taken. Data processing were done by using Microsoft Excel. Statistical measures and graphical processing were done by using Stata 15 software. P value less than 0.05 was considered significant.

Results. From VSIA BKUS PICU 2.61% (N=30) of patients died prior to discharge. In the UK 4.28% were discharged dead. In VSIA BKUS PICU in 19.89% (N=264) patients received invasive mechanical ventilation (IV), 1.28% (N=17) of patients received non-invasive mechanical ventilation (NIV), 1.36% (N=18) of patients received both types of mechanical ventilation (MV)- IV and NIV. In the UK these figures were as follows- IV received 55.48%, NIV received 4.28%, both types of MV received 10.65% of patients admitted to PICU. In VSIA BKUS PICU 10.03% (N=30) of patients who received MV were discharged dead form the ward, while in the UK this rate was 5.73%. The number of unplanned extubations per 100 intubation days for VSIA BKUS PICU was 2.31, but for the UK 0.38. Mortality rate adjusted of the Paediatric index of mortality 2 (PIM2) was higher in Latvia for patients who received any kind of MV (odds ratio (OR) 1.93 (95% confidence interval (CI) 1.26 to 2.97); p = 0.003), who received IV and NIV (OR 7.02 (95% CI 1.91-25.78); p = 0.003), who received only IV (OR 1.57 (95% CI 0.59-37.14); p = 0.143).

Conclusions. In VSIA BKUS PICU risk-adjusted mortality was higher than in the UK for those patients who received any kind of MV, who received only IV and for those who received only NIV. Statistically significant results were found only in comparison between patients who received any kind of MV and those who received both IV and NIV (only 18 episodes in Latvia - worth investigating more). The number of unplanned extubations in Latvia is nearly six times higher than in the UK.

Frequency of severe hypoglycemia in children with type 1 diabetes

Author(s): Justyna Jóźwiak, Daria Worosz Michalina Jurkiewicz, Jędrzej Chrzanowski Medical University of Lodz, Poland Presenting author: Justyna Jóźwiak Tutor(s): Beata Mianowska, Agnieszka Szadkowska

Introduction:

In children with type 1 diabetes (T1D), severe hypoglycemia (SH) is defined as "any event associated with severe cognitive impairment (including coma and convulsions) requiring external assistance by another person to actively administer carbohydrates, glucagon, or take other corrective actions" (ISPAD). This definition allows for a complete recording of all dangerously low blood glucose events and has been used in previous studies on SH frequency in our center. The frequency of SH is one of the measures of glycemic control and the efficacy of diabetes care.

Aim of the study:

This study aims to assess the current frequency of SH in patients with T1D attending the diabetes outpatient clinic of the Department of Pediatrics, Diabetology, Endocrinology and Nephrology (DPDEN), Medical University of Lodz (MUL), Poland.

Materials and methods:

All patients with T1D attending the DPDEN diabetes outpatient clinic are candidates for the study, and the only exclusion criterion is T1D duration of less than 1 month. The frequency of SH episodes is assessed with a standardized, retrospective questionnaire concerning SH events over the last 3 years. Patients' parents fill questionnaires in the presence of study researchers. Clinical data regarding patients' demographics and clinical characteristics (including auxologic data, type of diabetes therapy and glucose monitoring, daily insulin dose, HbA1c levels) are collected from patients' medical documentation.

Results:

81 patients (36 girls), aged from 5 to 18 years (mean \pm SD: 11,5 \pm 3,5 yr.) with average T1D duration of 4,4 \pm 3,2 yr. were enrolled so far, which constitutes approximately 20% of the planned study group size (these are the preliminary results of this study).

74 children were treated with insulin pumps and 7 patients used insulin in multiple daily injections (MDI). Mean level of HbA1c of the studied group was $7.6\pm1.4\%$. The frequency of SH over the last 3 years was 5.7 episodes per 100 patients per yr. (for patients with T1D duration of less than 3 yr. only the time since T1D diagnosis was considered for analysis). Every year 3.6% of patients had at least one episode of SH. Among patients with T1D diagnosed more than one year ago, the SH rate was 6.0 episodes per 100 patients per yr. Only one patient experienced an event requiring a glucagon injection.

Conclusions:

Based on these preliminary results, we conclude that:

- 1) The percentage of patients with T1D who experience SH nowadays is lower than in previous decades, which may result from intensive diabetes education and the introduction of modern insulinotherapy and technologies.
- 2) As a percentage of patients still experience SH, there is a need for a more extensive introduction of means and technologies that help to prevent this complication.

Clinical impact on diabetic control among overweight and obesity children with type 1 diabetes treated with insulin pump.

Author(s): Paulina Żybul, Izabela Wrzołek Marta Kiziak, Anna Jankowska Medical University of Warsaw, Poland Presenting author: Paulina Żybul Tutor(s): Agnieszka Szypowska, Magdalena Dymińska

OBJECTIVES: Obesity and overweight affect almost 20-25% of polish children and adolescents. The risk of late chronic complications of diabetes is higher in group of patients with coexisting T1D and overweight or obesity. The aim of the study was to assess the prevalence of overweight and obesity in children and adolescents with T1D treated with insulin pump and their metabolic control.

METHODS: There were enrolled 270 patients (124 girls) with mean age 13±5.7ys, diabetes duration 5.7±3.3ys and HbA1c 7.2±1.3%. All of them were on insulin pumps for more than 1y. Overweight was defined as a BMI≥85th pc and < 95th pc, obesity as a BMI≥95th pc. We analyzed levels of HbA1c, cholesterol, HDL, LDL, triglyceride(TG), vitamin D3(VD), systolic(SBP) and diastolic(DBP)blood pressure. Total daily insulin(TDD) and basal insulin dose were also analyzed. The population was divided into groups depending on body weights: lean(L), overweight(W), obese(O).

RESULTS: Overweight was noted in 39/270 children (14.4%) and obesity in 23/270 children (8.5%). Overweight and obesity occurs statistically more often in girls than boys (69.6%vs.30.4%) p=0.040. Group O compared with L had statistically: higher median HbA1c 7.9[7.4;8.8]% vs.6.8[6.3;7.5]%, p < 0.0001, lower median VD 20[15;25]ng/ml vs.23[18;29]ng/ml, p=0.020, higher median SBP 126[120;134]vs.119[110;127]mmHg. Statistically higher median SBP was seen in group W compared to L 126[120;130]mmHg vs.118[110;126]mmHg p=0.0008. There were no significant differences between groups in cholesterol, LDL, HDL, TG total and basal insulin dose.

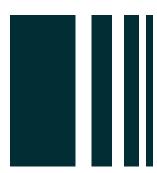
CONCLUSION: Insulin pump therapy did not cause a significant increase in body weight in children with T1D. In the analyzed group, overweight and obesity occurred with a similar frequency as in the general Polish pediatric population.

Insulin requirement in overweight and obese children was not increased, but it was more difficult for them to achieve the recommended metabolic control of diabetes. This was especially expressed in the obesity group.

Increased systolic blood pressure was more common in children with obesity and overweight.

Obese children had a lower level of vitamin D3 than lean children.

Pharmacy



Coordinators: Natalia Siwecka, Julia Wojtowicz,

Jury:

prof. Masahiro Ohsawa,

dr n. farm. Michał Kołodziejczyk,

dr n. med. Michał Karbownik,

dr n. med. Julita Ciećwierz,

dr n. farm. Michał Nachajski,

dr n. farm. Jacek Pietrzak,

Free fatty acids receptors ligands as potential factors modifying signal transduction within the endogenous opioid system in the mouse model of colitis

Author(s): Agata Binienda, Adam Makaro Adrian Bartoszek Medical University of Lodz, Poland Presenting author: Agata Binienda Tutor(s): Jakub Fichna, Maciej Salaga

Introduction: Inflammatory bowel disease (IBD), represented by Crohn's disease and ulcerative colitis are chronic, recurrent gastrointestinal disorders. There is evidence that endogenous opioid peptides are locally produced at the inflammatory site. Moreover, recent studies suggest that lipids, including free fatty acids are necessary for proper μ opioid receptors (MOP) binding. We hypothesized that the co-administration of the opioid receptor ligand and FFAR ligand may induce synergic anti-inflammatory effect and in consequence influence the course of IBD.

Aim of study: The objective of the study was to investigate a potential interaction between opioid system and FFAR ligands in the mouse model of colitis.

Materials and methods:

DAMGO (MOP agonist), GSK 137647 (FFAR4 agonist), AH7614 (FFAR4 antagonist) were used in this study. The potential synergic effect of opioid receptor ligand and FFAR ligands was evaluated using mouse model of experimental colitis induced by DSS. DSS (2-3%) was administered in drinking water for 5 days. Compounds were injected intraperitoneally (i.p.) once or twice daily at the dose of 0.01 or 0.02 mg/kg (DAMGO) and 1 mg/kg (FFAR4 agonist and FFAR4 antagonist) for 4 days, starting on Day 3. Body weight, macroscopic score, ulcer score, colon length and weight, as well as myeloperoxidase (MPO) activity were recorded.

Results: We did not observe any synergic effect of DAMGO and FFAR4 antagonist. However, MPO activity was decreased after DAMGO and FFAR4 agonist co-administration at the doses 0.02 mg and 1 mg, respectively as compared to DSS group. Other inflammatory markers were not altered.

Conclusions: Our results show that the synergic effect of DAMGO and FFAR4 antagonist may not exist. However, it is possible that DAMGO and FFAR4 agonist exhibit synergistic effect on the MPO activity. The potential involvement of the immune system in this synergy needs further attention.

The spent hops (Humulus Lupulus L.) extract as a new, anti-invasive agent for inhibition of colorectal cancer progression

Author(s): Miłosz Caban Medical University of Lodz, Poland Presenting author: Miłosz Caban Tutor(s): Urszula Lewandowska, Katarzyna Chojnacka Katarzyna Owczarek

Introduction

Colorectal cancer is forefront of malignancy in terms of the number of cases and mortality. Effective drugs which inhibit its progression and agents used in the chemoprevention of this cancer are still being sought. The chance for a new therapeutic option is seen in polyphenols. The Humulus Lupulus L., which contains a lot of polyphenols, has been described to possess anti-cancer effect. The studies show the effectiveness of polyphenolic compounds in the suppression of colorectal cancer development.

Aim of the study

The aim of the present study was to investigate the impact of spent hops extract (SHE) on the expression of matrix metalloproteinase-2, -9 (MMP-2, -9) and on the activity of these enzymes. The hypothesis of this study was an assumption that the compounds contained in the tested extract reduce the expression of MMPs at the level of mRNA, protein and inhibit their activity.

Material and methods

Two colorectal adenocarcinoma cell lines (SW-480 and HT-29) were cultured at 37 textdegree C in an atmosphere of 5% CO 2 plus air with supplemented medium. To assess the effect of extract on the cell viability, the MTT test was conducted. In addition, one of polyphenols - epigallocatechin gallate (EGCG) - was used as a positive control. Q-PCR, ELISA, and zymography were performed to evaluate mRNA expression, protein expression and MMPs activity, respectively.

Results

The SHE decreased the expression of MMP-2, MMP-9 and inhibited their activity.

Conclusions

The SHE may be a new therapeutic agent in the chemoprevention of colorectal cancer via the suppression of matrix metalloproteinases expression and activity.

Protective effect of rosuvastatin, atorvastatin and ezetimibe on the inflammatory process and integrity on human umbilical vein

Author(s): Mateusz Niedzielski Medical University of Lodz, Poland Presenting author: Mateusz Niedzielski Tutor(s): Woźniak E., Gorzelak-Pabiś P. Broncel M.

Introduction: HMG-CoA reductase inhibitors (statins) and inhibitor of cholesterol intestinal absorption (ezetimibe) are effective and widely used drugs in patients with hypercholesterolemia. The vascular endothelium forms a barrier that controls flow of solutes and proteins and the entry of leukocytes into tissue. The impairment of endothelial barrier by oxysterols shown in vitro studies may be one of the key factors of atherogenesis.

Aim of the study: The aim of our study was to assess the effects of atorvastatin, rosuvastatin and ezetymibe on the inflammatory status on human vascular endothelial cells pre-stimulated with 25-hydroxycholesterol.

Material and methods: Human umbilical vein endothelial cells (HUVECs) were pre-induced with 25-hydroxycholesterol ($1\mu g/ml$) for 4 hours and following induction, with atorvastatin ($10~\mu M$), rosuvastatin ($10~\mu M$), ezetimibe (500~ng/ml) and combinations of atorvastatin ($10~\mu M$) with ezetimibe (500~ng/ml), and rosuvastatin ($10~\mu M$) with ezetimibe (500~ng/ml) for 24 hours. HUVEC integrity was measured in the Real-time Cell Electric Impedance Sensing system (RTCA-DP). mRNA expression of ICAM-1, IL-1 beta,

TGF- beta, ZO-1, OCLN, CDH5 was analyzed by real-time PCR.

Results: Pre-induction with 25-hydroxycholesterol caused the decrease of endothelial cells integrity observed in RTCA-DP system and rosuvastatin caused the increase of endothelial integrity as compared to the 25-hydroxycholesterol control. No statistically significant increase was found in the HUVEC's integrity for atorvastatin, ezetimibe or combination of atorvastatin with ezetimibe and rosuvastatin with ezetimibe. Prestimulation with 25-hydroxycholesterol caused increase of ICAM-1 , IL-1 beta , TGF- beta and decrease of OCLN , ZO-1 , CDH5 mRNA expression in HUVEC as compared to the unstimulated control (p<0.05). In HUVEC inducted with atorvastatin or rosuvastatin we observed decrease of ICAM-1 , IL-1 beta, TGF- beta , and increase of CDH5, OCLN,

ZO-1 mRNA expression as compared to the 25-hydroxycholesterol control (p<0.05). In HUVEC inducted with atorvastatin combined with ezetimibe we observed decrease of IL-1B , TGF-B, CDH5, ICAM-1. In HUVEC inducted with atorvastatin combined with ezetimibe we observed decrease of TGF-B, ICAM-1. No statistically significant changes were found in the expression of all analyzed genes for ezetimibe .

Conclusions:

25-hydroxycholesterol destabilize the endothelial barrier, decrease HUVEC's integrity and initiate inflammatory processes, thus supporting atherogenesis. Only rosuvastatin increase cellular integrity after 25-hydroxycholesterol pre-stimulation. Atorvastatin and rosuvastatin inhibit inflammatory process initiated by 25-hydroxycholesterol in endothelium. Ezetimibe neither affects cell integrity nor its inflammatory properties. Combined stimulation of atorvastatin with ezetimibe or rosuvastatin with ezetimibe have less impact on HUVEC's integrity and inflammation process than stimulation of single statin without ezetimibe.

A new approach to ovarian cancer treatment - application of functional carb-pharmacophores.

Author(s): Adrianna Cieślak, Grzegorz Galita Joanna Sarnik, Anna Czubatka-Bieńkowska Medical University of Lodz, Poland; University of Lodz, Poland Wilkes University, PA, USA Presenting author: Adrianna Cieślak Tutor(s): Tomasz Popławski, Zbigniew J. Witczak

Introduction: Ovarian cancer is the 7th most common gynaecological malignancy affecting women worldwide. Over 70% of cases are diagnosed at the advanced stage of the disease, which is initially treated with cytoreductive surgery and chemotherapy in combination with platinum-based antineoplastics. Novel selective therapeutic strategies are required in the modern approach to drug design. Particularly noteworthy are functional carb-pharmacophores (FCP), which are carbohydrates containing specific chemical groups that can render potentially therapeutically useful properties of compounds. Thiosugar motif, in which one or more oxygen atoms are replaced by sulfur, is an interesting example of FCP because of its chemical flexibility.

Ireneusz Majsterek

Objectives: The aim of the study was to compare 1,6-anhydrosugars functionalized at C-4 position with amino thiadiazole and thiazoline moieties named FCP24 and FCP27A, respectively, to discover a new additive to basic chemotherapy.

Methods: Both compounds were tested on human ovarian cancer cell line (A2780). Cytotoxicity and cell viability were tested with In Vitro Toxicology Assay Resazurin based (Sigma-Aldrich) to estimate the change in cell metabolism. Inhibitory concentration curves were obtained for the tested drugs. LDH assay was performed to demonstrate the rupture of the cell membrane. Genotoxicity was evaluated with alkaline versions of comet assay. Spin traps were used to check the level of cell damage after adding tested FCPs and antioxidants. To assess the mechanism of cell death, the Annexin V and Caspase 3/7 were performed as well.

Results: Cytotoxic activity was determined and half-maximal inhibitory concentration (IC50) values were: $56.21\mu\mathrm{M}$ and $47.72\mu\mathrm{M}$ for FCP24 and FCP27A, respectively. LDH cytotoxicity assay showed the difference in cell damage level between FCP24 and FCP27A at IC50 concentration 90.33% and 62.16%, respectively. FCP24 showed a high level of anticancer activity, with the induction of DNA lesions observed in an alkaline version of comet assay (24.52% DNA damage in tail after 90min incubation). The level of oxidative stress induced by both FCPs was decreased by using antioxidants. Both compounds induced cell death but not apoptosis.

Conclusions: Investigated FCPs demonstrate a promising anticancer effect in vitro. Thiosugars are promising novel agents for basic chemotherapy in ovarian cancer. More studies are needed to establish a detailed mechanism.

The effect of inflammation and its treatment on populations of colonic interstitial cells in the mouse model of DSS-induced colitis.

Author(s): Mikołaj Świerczyński Medical University of Lodz, Poland Presenting author: Mikołaj Świerczyński Tutor(s): Jakub Fichna, Krzysztof Gil Veronika Aleksandrovych

Introduction

Inflammatory bowel diseases (IBD) are a group of chronic conditions that significantly affect patients' quality of life. The most commonly used drugs in IBD treatment include 5-aminosalicylates and corticosteroids, however their relatively weak efficiency combined with serious adverse effects encourage further research on potential pharmacological targets. Interstitial cells like telocytes (TEL) and interstitial cells of Cajal (ICC) may play an important role in IBD pathogenesis. Currently, there are no detailed reports on interstitial cells in the context of colonic inflammation.

Aim of the study The aim of this study was to compare the populations of TEL, ICC and neurons in non-inflamed and inflamed colon mucosa in dextran sulfate sodium (DSS)-induced mouse model of ulcerative colitis in comparison to inflamed mucosa treated with clinically used drugs: dexamethasone (DEX) and 5-aminosalicylic acid (5-ASA).

Materials and methods Forty male Balb/C mice were divided into control, and 3 DSS groups: DSS+0.9% NaCl, DSS+DEX and DSS+5-ASA (10 mice each). The DSS groups underwent a 7-day treatment with orally administered 3% DSS in drinking water from day 0 to day 4, which was then exchanged for water. The treatment was administered between days 3 and 6 by intraperitoneal administration of DEX and intragastric administration of 5-ASA. On day 7, mice were sacrificed and colon samples were taken for macroscopic evaluation of the inflammation score and immunohistochemical examination. TEL were identified as CD34/PDGFR a double-positive cells, ICC were c-kit and the neurons were PGP 9.5 positive cells.

Results Mice from DSS groups had significantly higher macroscopic inflammation score than the control group. Among DSS groups, the DEX group had the highest score, while 5-ASA the lowest, however without statistical significance.

The populations of TEL and neurons within the colon wall differed in number between DSS+NaCl and control groups, with higher abundance of both cell types in the former. In DSS groups with 5-ASA and DEX treatment the populations of TEL were the same as in DSS+NaCl group, while populations of neurons were closer to the control group, however not different comparing to both DSS+NaCl and control groups. The higher abundance of TEL in all DSS groups compared to control was observed mainly in the intestinal crypts. No significant change in the number of cells was observed for the ICC populations between all DSS and control group, however, we observed differences in ICC morphology and local distribution.

Conclusions Inflammation clearly impacted the populations of interstitial cells and neurons in the mouse colon. The results suggest that interstitial cells participate in adaptive reaction of the mucosa and also are possibly involved in regeneration processes during colitis. To the best of our knowledge, this is the first study on the possible role of interstitial cells in the pathogenesis of IBD.

Small-molecule inhibitors of PERK-dependent signaling pathway as a novel strategy in open-angle glaucoma treatment

Author(s): Adam Wawrzynkiewicz, Natalia Siwecka Medical University of Lodz, Poland Presenting author: Adam Wawrzynkiewicz Tutor(s): Wioletta Rozpędek-Kamińska, Dariusz Pytel J. Alan Diehl, Ireneusz Majsterek

Introduction

The existing approach for the treatment of open-angle glaucoma focuses on alleviating the symptoms. It does not take into account the molecular processes occurring in the tissues of the eye. The newest literature data has demonstrated that chronic Endoplasmic Reticulum (ER) stress is associated with trabecular meshwork (TM) dysfunction and the resultant PERK-dependent Unfolded Protein Response (UPR) induces apoptosis in the TM cells, which then leads to an increase in resistance to aqueous humor outflow, elevated intraocular pressure and, ultimately, glaucoma.

Aim of study

The main aim of the presented study was to evaluate the effectiveness of the selected small-molecule PERK inhibitor in open-angle glaucoma treatment.

Materials and methods

Experiments were performed on the human trabecular meshwork (HTM) cell line (#6590 Sciencell) cultivated according to manufacturer's guideline. First, we examined the biological activity of the PERK inhibitor by evaluating the phosphorylation of PERK's first substrate, eIF2 alpha. Cells were pretreated with inhibitor for 1h, and then treated with thapsigargin (Th) for 2h. Negative control constituted untreated cells while positive control cells treated with Th. The level of p-eIF2 alpha was evaluated using the Western blot technique.

The cytotoxicity of the investigated PERK inhibitor was evaluated using the colorimetric XTT assay. Cells were treated with PERK inhibitor at a concentration range of 0.75μ M to 50mM and incubated for 16, 24 and 48h. Untreated cells served as a positive control, whereas cells treated with 100% DMSO as a negative control.

To evaluate the level of apoptosis in HTM cells treated with the PERK inhibitor an assay for caspase 3 activity was used. Cells were treated with the inhibitor at a concentration range of 3μ M to 50μ M and incubated for 24h. A positive control constituted cells treated with 1μ M staurosporine, whereas negative control untreated cells.

Results

The selected compound showed the highest inhibitory potential towards PERK at the concentration of 3μ M. There was no cytotoxic effect of PERK inhibitor on HTM cells regardless of concentration and incubation time. Evaluation of the level of apoptosis showed no significant apoptosis induction at all used concentrations of the inhibitory compound.

Conclusion

Obtained results have suggested that small-molecule PERK inhibitors may provide an innovative, targeted, promising treatment strategy for patients suffering from open-angle glaucoma. This solution provides not only symptomatic treatment, but also addresses factors contributing to the emergence of symptoms.

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Is energy based physiotherapy use reasonable for those who do not have Female Sexual Dysfunction?

Author(s): Irīna Morozova Riga Stradins university, Latvia Presenting author: Irīna Morozova Tutor(s): Ieva Briedite, Elina Locmele

Introduction: High Intensity Focused Electro-Magnetic technology (HIFEMt) is an innovative physiotherapeutic method for diminishing weakness of pelvic floor muscles (PFM). Its effect is based on intense focused electromagnetic fields, causing contractions of higher tension than Maximal Voluntary contractions of PFM. As strong PFM is associated with high sexual function and satisfaction, HIFEMt is believed to have great prospective s in treatment of Female Sexual dysfunction (FSD). But could it be used to improve sexual life in case of normal sexual function?

Aim of the study: To compare HIFEMt use for FSD patients and non-FSD patients in the first clinical trial of HIFEMt in Latvia.

Materials and methods: 40 women, aged 25 to 45, selected according to specific criteria, underwent ten HIFEM technology procedures according to local regimen. Data was obtained from questionnaires, filled before the 1 st and the 10 th procedures, using validated Female Sexual Function Index(FSFI) - suggesting FSFI<26.55 for the diagnosis of FSD - and supplementary questions. Data was processed with Microsoft Excel and IBM SPSS Statistics 22.0.

Results: 60%(n=21) of patients were nullipara. 50%(n=7) of those, who had \geq 1child had episiotomy/ruptures during labor. 22.9% (n=8) have tried Kegel exercises as a method to improve the quality of sexual life before. In 91.4% (n=32) partner knew about the research and supported woman.

48.6%(n=17) named anorgasmia as the reason of participation in the research, 42% (n=15) - libido problems, 20% (n=7) - pain during intercourse. Before the start of procedure cycles 60% (n=24) of all patients had FSD, with the mean (IQR) value 22.50(4.85) with the lowest numbers in Desire domain (3.10(1.00)).

87.5%(n=35) of patients have underwent full procedure cycle. 12.5%(n=5) were excluded because of developing contraindications for the procedures (pregnancy, acute infections, hemorrhoid disease). 5.7%(n=2) developed side effects after 7 th and 10 th procedure (PFM hypertonus (n=2)), both non-FSD group.

After the 10 th procedure 42.9% had FSD (n=15) with FSFI 27.17(3.58). The biggest changes were in Orgasm domain (0.84(1.37)) after the 5 th; 0.93(1.6) after the 10 th. Medians (Q1-Q3) of FSFI changes from 1 st till 10 th procedure between FSD group and non-FSD group were statistically significant: 6.1(3.1-11.1) and 1.9(-3.1-5.0).

Conclusion: HIFEMt shows better results in symptomatic therapy of FSD than as method of improvement of previously normal sexual function - its use for non-FSD patients is possible, however each case should be considered individually with the regard to possible emersion of side effects rahter than achieving benefits. Further evaluation needed.

Radiomics-based machine learning for radiotherapy planning

Author(s): Szymon Grabia, Urszula Smyczyńska Lodz University of Technology, Poland Medical University of Lodz, Poland Presenting author: Szymon Grabia Tutor(s): Anna Fabijańska, Wojciech Fendler

Introduction:

Radiomics is a term describing a translational field of research from the intersection of computer science and medical imaging. The main idea behind it is the extraction of crucial information about patients and their potential diseases from standard-of-care medical images such as Computed Tomography (CT) scans, Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET) and other imaging techniques. The principle is to extract radiomic features (such as intensity, shape, texture or wavelet) from a medical image in a rapid, unbiased and high-throughput manner and analyze it using data mining methods to boost the diagnostic, prognostic, and predictive accuracy.

Aim of the study/purpose:

One of the disadvantages of radiomics is the lack of standardization in a procedure pipeline for the extraction of radiomic features of investigated body organs. These regions are highly variable between individuals, confounded by diseases and past procedures and require expert knowledge to delineate when planning radiation dose distribution. Moreover, during radiotherapy, the relative locations and sizes of the organs may change due to wasting or effects of treatment, which may lead to the development of radiation toxicity symptoms, as healthy organs are damaged by ionizing radiation. Despite this, state-of-art models for normal tissue complication probability (NTCP) do not take into account those detailed anatomical variations in the organs. Therefore, the goal of this project is to utilize machine learning to construct, on the bases of radiomic features, personalized models that incorporate mineable high-dimensional data from the CT scans.

Material and methods:

Batch of scan images from 40 patients, who have undergone radiotherapy for head and neck cancer and whose planning process was performed manually by doctors based on CT planning scans fused with diagnostic PET-CT scans, was used. In this study, we focused on hypothyroidism as an outcome and thus only the slices containing a thyroid or those being close to a thyroid were considered from the entire series.

Results:

Radiomic features were extracted from scans with pyradiomics package and filtered based on their performance in the t-test (p < 0.05) and negligible mutual correlation. As a result, 19 features were selected and provided as an input to the Multi-layer Perceptron with 4 hidden neurons. The presence of hypothyroidism acted as an outcome. After the neural network training, the predictions for the validation set yielded the values of the mean (SD): accuracy 0.92 (0.05) and ROC AUC 0.95 (0.02).

Conclusions

Such promising results indicate that machine learning may be a valid tool in the process of radiomic feature selection, which could be used for more accurate predictions of complications for healthy organs after radiotherapy. That would, in turn, allow for personalized and more rigorous radiotherapy plans and lead to avoidance of undesirable damage to healthy organs.

Students' knowledge about electronics as source of radiation and their potential health impact

Author(s): Urszula Sołdaj, Gabriela Kanclerz Jagiellonian University Medical College, Poland Presenting author: Urszula Sołdaj Tutor(s): Grzegorz Tatoń, Artur Kacprzyk

Introduction: Despite wide implementation of electronics in modern societies their impact on health still remains the matter of debate. Some individuals complains of a variety of non-specific physical symptoms which in their opinion are attributed to exposure to electromagnetic field (EF) what is formerly called electromagnetic hypersensitivity (EHS). Nevertheless, the number of persons who may be afflicted by EHS and its impact on their everyday behaviour has not been described among Polish students.

Aim of the study: To analyze the knowledge about the influence of EF originating from devices of everyday use and to identify the prevalence and patterns of EHS among Polish students.

Material and methods: We conducted a prospective study with the use of a 22-element questionnaire accessible via internet platform. The questions concerned responders' demographic data, their experience and knowledge in the field of (bio)physics, their attitude towards EF-emitting devices and potential health consequences of their use. The survey was addressed to students of both medical and non-medical faculties.

Results: Although interviewee were students, brought up surrounded by electronics, a lot of them consider them as a source of harmful radiation. Some of them claim to feel a negative impact on their mood and functioning.

Conclusions: Although majority of responders were youth, who consider themselves as highly familiar with EF-emitting electronic devices and their mechanism of action, some of the responders displayed behaviour which may be linked to EHS.

PhD session

Coordinators: Kornelia Kołodziejczyk, Bartosz Lenda,

Jury:

dr hab. Katarzyna Lubecka, prof. dr hab. n. med. Ireneusz Majsterek, prof. dr hab n. farm. Ewa Balcerczak, dr n. farm. Adam Daragó,

Contribution of WWOX-AP2gamma interplay is meaningful to bladder cancer - in vitro and in silico analyzes.

Author(s): Damian Kołat, Żaneta Kałuzińska Magdalena Orzechowska Medical University of Lodz, Poland Presenting author: Damian Kołat Tutor(s): Elżbieta Płuciennik

Introduction:

The WW Domain Containing Oxidoreductase (WWOX) tumor suppressor gene is located in direct proximity to chromosomal locus 16q24 that is related to tumor progression of 20-45% bladder cancers. It encodes protein containing two WW (tryptophans) domains and short chain dehydrogenase domain. The first WW domain can recognize proline-rich motifs of interacting proteins such as Activating Enhancer-Binding Protein 2 Gamma (AP-2 gamma) transcription factor (encoded by Transcription Factor AP-2C (TFAP2C) gene). The literature data states that WWOX sequestrates AP-2 gamma outside nucleus, which suppresses its transcriptional functionality and oncogenic activity.

Aim of the study:

The purpose of this research was to examine diverse properties of bladder cancer with various WWOX and TFAP2C expression levels in RT-112 cell line (grade 2) together with additional assessment of expression profile effect on useful clinical features.

Materials and Methods:

Using two lentiviral systems we created an in vitro model with various WWOX and TFAP2C expression. Bioinformatic analyzes were conducted using Gene Expression Profiling Interactive Analysis (GEPIA), Weighted Gene Correlation Network Analysis (WGCNA) and Principal Component Analysis (PCA).

Results:

Using GEPIA web-server we revealed that decrease in TFAP2C expression was significantly associated with favorable Disease-Free Survival and Overall Survival in bladder cancer patients, confirming its oncogenic character. In variant with uparrow WWOX / uparrow TFAP2C expression we observed reduced mitochondrial redox potential, lowered clonogenicity, decreased cell proliferation and increased programmed cell death in comparison to isolated uparrow WWOX expression (i.e. without TFAP2C overexpression). Additionally, using bladder cancer data acquired from The Cancer Genome Atlas, in silico analyzes (WGCNA, PCA) have been performed on patients having uparrow TFAP2C but various WWOX expression. Using WGCNA we extracted cluster of 38 genes that noticeably differentiated samples. Subsequently, contribution of these genes performed through PCA analysis indicated 21 genes (e.g. CDH5, VWF, FLT4, COL4A1) that significantly discriminated individuals depending on previously established age subdivision.

Conclusions:

Taken together, our study indicates that WWOX exhibits paramount role over AP-2 gamma and their interplay in bladder cancer leads to negative impact on tumor cells. In the case of isolated overexpression of WWOX or TFAP2C , their individual suppressory or oncogenic function is consistent with the literature. However, when they accompany each other, WWOX seems to potentiate its suppressor character due to the necessity to oppose overexpressed TFAP2C . The ultimate effect is protective biological outcome against cancer, which is due to WWOX characteristics. Moreover, in silico analyzes revealed valuable data concerning clinical traits correlation with expression profile.

This work was supported by NCN Poland grant number 2016/21/B/NZ2/01823.

Treatment of cerebral infarction due to obstruction of the right internal carotid artery and right middle cerebral artery - mechanical thrombectomy and stenting - a case report of a 56-year-old patient.

Author(s): Eliza Oleksy, Paulina Kasperska Anna Ziółkowska, Remigiusz Sokołowski Nicolaus Copernicus University in Toruń, Poland Collegium Medicum in Bydgoszcz, Poland Presenting author: Eliza Oleksy Tutor(s): Kornelia Kedziora-Kornatowska

Introduction:

According to WHO, stroke is still the most common cause of disability in adults and the second leading cause of death in the world. In Poland, around 90,000 ischemic strokes are noted annually. This represents 85-90% of all strokes. Thad kind of disease happens when an artery supplying some part of the brain with blood becomes obstructed and the blood does not flow through it or does not flow enough to allow the brain cells to receive as much as they need. Among this type, embolic stroke is also distinguished, one in which carotid and cerebral arteries are occluded. Thanks to today 's medicine, we have the option of treating such strokes. Mechanical thrombectomy is used if the embolism is in an not stenotic vessel, while mechanical thrombectomy and stenting is performed in the event of an embolism in a stenotic vessel.

Case report:

A 56-year-old patient admitted to the Department of Neurology at the University Hospital No. 2 Jan Biziel in Bydgoszcz due to obstruction of

RICA and RMCA. The extent of obstruction by many radiologists could disqualify that patient for thrombectomy. A history of hypertension, type 2 diabetes mellitus and hypercholesterolemia. In the neurological examination, the patient was in a good general condition, conscious, higher functions were preserved. In preliminary diagnosis: acute anterior cerebral circulation failure, left-sided paralysis, right hemisphere infarction, dysarthria. Qualified for thrombolysis by intravenous Actylise infusion, NIHSS = 14 points. The procedure was performed with a puncture into the right femoral artery. Angiography showed RICA obstruction from the level of the pad. After obstruction, another angiography was performed, showing RMCA obstruction. Managed by aspiration and thrombectomy. Next in the neuroprotection sheath and after Brilique administration, ICA balloon surgery was performed, with a stent inserted by the balloon. Thrombolysis in myocardial infarction was successful. The insertion site was protected by an occluder. The control DynaCT

showed a hyperdense focus in the right hemisphere for a CT scan. After excluding intracranial bleeding, double antiplatelet therapy was prescribed. After the unblocking treatment, an improvement in the neurological condition was achieved in the form of the transition of the paralysis to left-sided hemiparesis and reduction of dysarthria, NIHSS 6 points.

Conclusions:

Thrombectomy is a method of remarkable effectiveness in the treatment of cerebral ischemia. By reducing the infarct area, patient 's condition was improved. The described case had extensive RICA and RMCA obstruction, however, thanks to the successfully performed method, neurological deficits were reduced. The patient received recommendations: further coordination of treatment under the care of a family doctor and neurological clinic, regular measurement of blood pressure and pulse, diabetic diet, target LDL-C 70-100 mg / dl, ultrasound carotid Doppler for 3 months.

Prevalence and associated factors of elder psychological abuse- a cross- sectional screening study, based on a hospitalized community from Poland

Author(s): Karolina Filipska Collegium Medicum in Bydgoszcz, Poland Nicolaus Copernicus University in Torun, Poland Presenting author: Karolina Filipska Tutor(s): Robert Ślusarz

Introduction: Elder abuse and neglect is increasingly important for intervention and research in the context of global aging of the society. Increasingly, it is considered a serious social problem, which is likely to get worse, given the aging of the population.

Purpose: The aim of the present work was to exploring the prevalence, perpetrators and predictors of elder psychological abuse and their relationship to various sociodemographic variables.

Material and methods: We conducted the cross- sectional study, based on a hospitalized community. The sample consisted of 200 respondents aged ≥ 60 . The respondents were patients hospitalized in the Chair and In-Patients Clinic of Geriatrics at the University Hospital No. 1 of Dr Antoni Jurasz in Bydgoszcz. The full project procedure included completing only own survey questionnaire. The Chi square test, Chi square test with continuity correction and logistic regression models were used.

Results: A total of 77 respondents (38.5%) experienced at least one type of abuse in the last 12 months, 43% women and 33% men, respectively. The most common type of abuse was psychological, reported by 58 participants (75.3%). This study reveals that statistically more often, psychological abuse is experienced by women, seniors living in urban areas, people aged >70 and seniors with a low socioeconomic status. Generally, cohabitants, spouses or sons are the most frequent perpetrators of elder abuse and neglect.

Conclusions: Based on our own research and of other authors, it can be concluded that abuse is an extremely important problem. Therefore, there is an urgent need for further research in this area and for efforts to make programs to prevent the ill-treatment of older people more effective and data-based.

The prevalence and severity of arrhythmias in Duchenne muscular dystrophy patients in Holter ECG monitoring.

Author(s): Magdalena Bazgier, Jarosław Meyer-Szary Renata Tarnowska, Zbigniew Świątek-Brzeziński Medical University of Gdańsk, Poland Presenting author: Magdalena Bazgier Tutor(s): Joanna Kwiatkowska

Introduction

Duchenne muscular dystrophy (DMD) is a chromosome X-linked dystrophinopathy affecting not only skeletal and respiratory muscles, but also the cardiac muscle. Cardiac involvement results in progressive heart failure and heart rhythm abnormalities preceding cardiomyopathy by even 7 years and frequently beginning with sinus tachycardia. Holter ECG monitoring is a useful tool for assessment of type, severity, progression of arrhythmias as well as daily profile of heart rate (HR).

Aim of the study

Aim of this study was to assess prevalence of heart rhythm abnormalities in DMD patients.

Material and methods

In a group of 67 patients with genetically confirmed DMD 86 Holter ECG monitoring studies were conducted in years 2017-2019. Presence of ventricular and supraventricular arrhythmias was assessed (using 24-hour count threshold of 10 and 200 respectively). Minimum, maximum and average heart rate were assessed with average heart rate normalization for sex and age (z-score) using the reference data by Salameh et al. Statistical analysis was performed with Wizard Pro 1.9.38 (Evan Miller, Chicago, IL). All data are reported as mean \pm standard deviation (range).

Results

Examined group of patients was 10.5 ± 3.8 (3.4 - 18.0) years old and the recording time was 21.5 ± 1.2 (19.1 - 24.0) hours. The minimum and maximum HR were 61.8 ± 7.9 (41.0 - 90.0) and 157.2 ± 17.0 (122.0 - 197.0) respectively. The average HR was 100.4 ± 10.3 (78.0 - 124.0) and the calculated z-score 1.5 ± 0.9 (-0.4 - 4.0). In 40 (46.5%) cases sinus tachycardia was diagnosed. The tachycardia prevalence was age-dependent (chi2, p=0.032) and escalating with age (Pearson, r=0.413, p < 0.001). Singleton supraventricular paroxysmal beats were found in 33 (35%) studies, mean n 527 ± 442 , and singleton ventricular paroxysmal beats in 6 (7%) studies, mean n 236 ± 219 . One case of transient Wenckebach type second-degree atrioventricular block was noted.

Conclusions

Whereas severe arrhythmias occur rarely, sinus tachycardia is very common even in relatively young patients. It remains unclear if this phenomenon is caused by autonomous dysfunction or a compensatory measure in the setting of heart failure. Further investigation is essential to assess the progress of benign and occurring of severe arrhythmias, as well as their correlation with heart failure development.

Understanding of mesenchymal stem cells (MSCs)- mediated mechanisms of immunosuppression in the course of allergic airway inflammation

Author(s): Marlena Tynecka, Aleksandra Starosz Kamil Grubczak, Milosz Nesterowicz, Adrian Janucik, Barbara Makowska, Arkadiusz Zbikowski, Dawid Groth Supervisors: Marcin Moniuszko, Andrzej Eljaszewicz Medical University of Bialystok, Poland Presenting author: Marlena Tynecka Tutor(s): Andrzej Eljaszewicz, Marcin Moniuszko

Asthma remains one of the most common respiratory disease affecting around 300 million people worldwide and leading to 250 thousand deaths annually. In the majority of cases, asthma is well controlled by inhaled corticosteroid (ICS) therapy. Unfortunately, prolonged treatment with increasing ICS doses may cause side effects or even lead to ICS resistance. On the other hand, untreated or uncontrolled asthma leads to the development of irreversible changes within the lower airways, referred to as lung remodeling. Therefore, there is a substantial need to develop novel and effective therapeutic strategies for uncontrolled asthmatics. Due to potent immunosuppressive properties, mesenchymal stem cells (MSCs) are considered a promising therapeutic option in inflammatory-based diseases, including asthma. However, the MSCs-mediated mechanism of immunosuppression within the lung remains elusive.

Here we aimed to understand the molecular mechanisms of MSC induced regulation of eosinophilic and neutrophilic inflammation of the lung.

Two house dust mite (HDM) induced experimental asthma models were employed. Eosinophilic and neutrophilic allergic lung inflammation has been developed by i.n. administration of HDM extract. Adipose tissue-derived MSCs were transferred i.n. to inflamed lungs two days before experiment termination. Histochemical stainings, quantitative PCR, and whole lung transcriptomic profiling were used to assess potential mechanisms of MSC induced regulation of HDM induced lung inflammation.

MSC regulatory function in inflamed lungs has been assessed by using histochemical stainings. Surprisingly, by using quantitative PCR screening, we found no significant differences in the expression levels of genes encoding selected tight junction proteins, alarmins, mucins, innate immune cytokines, and chemokines. Interestingly, however, we found significant downregulation of Gmcsf (Csf2), Il-17A and Il-17F expression, and a trend to decrease Mmp-9 and Mmp-12 expression in eosinophilic, but not neutrophilic asthma model after MSC administration. Having found no significant changes in the expression levels of selected genes, crucial for lung homeostasis, next, we decided to analyze whole lung transcriptomic profiles. We found that MSC induced suppression of eosinophilic and neutrophilic lung inflammation possess distinct transcriptomic signatures. Interestingly, in all differentially regulated genes, only 233 were common for both models. Finally, by using ingenuity pathway analysis (IPA, QIAGEN), we found that regulatory functions of MSC in eosinophilic and neutrophilic lung inflammation are associated with changes in different immunological and metabolic pathways.

Taking together, here we revealed that adipose-tissue derived MSCs possess the therapeutic potential to limit both eosinophilic and neutrophilic asthma. However, molecular mechanisms of MSC mediated regulation of lower airway inflammation seems to be different in both models.

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The relationship between self-assessment of health in older people and the severity of depression.

Author(s): Monika Prylińska, Natalia Skierkowska Małgorzata Gajos, Weronika Topka Nicolaus Copernicus University in Toruń, Poland Collegium Medicum in Bydgoszcz, Poland Presenting author: Monika Prylińska Tutor(s): Kornelia Kędziora-Kornatowska

Introduction

Depression is the most common mental disorder among elderly people, the prevalence is estimated at 15% in people over 60. yo. Diagnosis of depression is difficult, and the lack of proper treatment leads to gradual loneliness and intensify the symptoms of the disease. Elderly patients with chronic diseases complain mainly of somatic symptoms associated with the underlying disease, and their depression is hidden.

Aim of research

To assess how self-assessment of health correlates with the occurrence and severity of depression in patients over 60. yo.

Material and methods

The presented research results are part of the scientific project 'Train your brain', which purpose is to assess the impact of resistance training on cognitive and autonomic functions in people over 60.yo. It took a place in the Geriatrics Department at the University Hospital No. 1 in Bydgoszcz, and consisted of double multidiscyplinary assessment, with an interval of 2 years.

In this research paper preeliminary results from 215 patients were analyzed. Self-assessment of health status now and 2 years ago was evaluated by patients using the Numerical Rating Scale (NRS). The Geriatric Depression Scale (GDS) was used to assess occurrence and severity of depression. Statistica 13.0 was used for statistical analysis.

Results

Analysis included results from 215 patients over 60.yo. It was found that depression symptoms assessed in the GDS scale in the study 2 years earlier occurred in 20% of patients (18.5% mild and 1.5% severe symptoms), in detail - in the group of women this percentage was 18, 2% mild and 1.8% severe, and 17% mild in men. Assessing the severity of depressive symptoms at the time of the study, it was found in 17% of respondents (in the group of women 18.2% of moderate depression and 1.2% of severe depression, and 7.5% of men in mild). Assessing the correlation between the number of points obtained on the GDS scale now and 2 years ago and the current assessment of health status, it can be seen that the higher score awarded for the overall assessment of the health status was correlated with the lower values obtained on the GDS scale, and that seniors rated their condition better health and obtained a lower GDS score now than 2 years ago. Patients who tested better two years ago, showed better results in fitness tests (up & go test, lower extremity strength test, 6-minute walk test), now better health self-assessment results and were less exposed to depressive symptoms.

Conclusions

- 1. According to the results, the prevalence of depression in the geriatric population is between 17 and 20%.
- 2. Better self-assessment of health by seniors correlates with lower intensity of depressive symptoms in patients.
- 3. Better physical fitness in the past correlates with better self-assessment of the health status of seniors today.
- 4. Improving the physical activity of seniors can be a protective factor against the development of depression in the elderly.

In vitro and in silico analyzes of WWOX gene role in glioblastoma multiforme.

Author(s): Żaneta Kałuzińska, Damian Kołat Magdalena Orzechowska Medical University of Lodz, Poland Presenting author: Żaneta Kałuzińska Tutor(s): Elżbieta Płuciennik, Katarzyna Kośla

Introduction

The WW domain-containing oxidoreductase

(WWOX) gene locus is positioned on chromosome 16 in a common fragile site FRA16D (16q23.1-q23.2) and is unclassifiable as its action is not restricted to direct control of the cell cycle or genome integrity, but exerts a more global impact on cell function. Despite the knowledge about the WWOX gene role in many cancers, data on brain tumors are still limited and mainly concern glioblastoma multiforme (GBM). WWOX genomic alternations and expression changes in GBM are around 20%.

Aim of the study

The purpose of research was to broaden the current state of knowledge about the role of the WWOX gene in GBM via performing both biological assays and in silico analyzes.

Material and Methods

To conduct in vitro assays, firstly the transduction with lentiviral system was performed on glioblastoma multiforme cells (DBTRG-05MG) to obtain cell models with various level of WWOX. Subsequently, properties such as clonogenicity, 3D growth, MMPs activity or migration potential were evaluated. The in silico transcriptomic analyzes of GBM samples were prepared on data obtained from The Cancer Genome Atlas (TCGA) with the usage of the GenePattern repository (Gene Set Enrichment Analysis module) and NETwork-based Gene Enrichment (NET-GE).

Results

In vitro tests revealed that, despite increased clonogenicity in DBTRG-05MG cells with high WWOX gene expression and the enhanced ability to grow in suspension, WWOX overexpressing cells demonstrated lower capacity for invasive migration in comparison to low WWOX, which may be associated with intensified adhesion. As indicated by Western Blot analyzes, WWOX also regulates the expression of other proteins such as ATP6V1A, GFAP and LAMP1 involved in the processes of programmed cell death, maintenance of normal astrocyte structure or cytoskeleton modulations. In bioinformatic analyzes, p atients were divided into phenotype with low and high WWOX gene expression, then a functional enrichment analysis was conducted. Gene ontology gene sets connected with cilium parts prevailed in patients with "WWOX high" phenotype, therefore one of them with 372 genes was chosen to further investigations. Using NET-GE for enrichment analysis of the molecular mechanisms and function, the highest fold changes had genes such like DYNLRB2, DNAI1, KNCN or MAPK15 involved in processes like cell surface structure adhesion, migration, and organization.

Conclusions

In summary, WWOX gene expression is associated with the fundamental biological processes of glioblastoma multiforme cells, and promising preliminary bioinformatic analyzes regarding WWOX gene participation in development and course of glioblastoma multiforme render the further research reasonable.

This research was funded by the National Science Centre of Poland (2015/17/D/NZ2/01989)

Results dissemination of registered clinical trials across academic institutions: cross-sectional analysis

Author(s): Karolina Strzebońska, Mateusz Wasylewski Marcin Waligóra Jagiellonian University Medical College, Poland Presenting author: Karolina Strzebońska Tutor(s): Marcin Waligóra

Introduction

The results of completed clinical trials inform patients, clinicians, researchers, policy makers and they are crucial for decision making in evidence-based medicine. However, the World Health Organization reports that currently about 50% of completed clinical trials remain unreported. The performance of reporting clinical trial findings has been particularly poor across universities.

Aim of the study

The aim of this study was to determine rates of publication and reporting of results for clinical trials completed between 2009 and 2013 across all academic medical centres (AMCs) in Poland.

Material and methods

We used the Aggregate Analysis dataset and manual search of ClinicalTrials.gov to identify all interventional clinical trials registered on ClinicalTrials.gov with a completion date between 2009 and 2013. A trial was assigned to an AMC if the AMC was either mentioned as a "responsible party" or as a "facility". For each of the included studies, a publication was searched independently by two researchers in a 4-step process on: ClinicalTrials.gov, PubMed, Google Scholar and Web of Science.

Results

We identified 1267 interventional clinical trials registered on ClinicalTrials.gov completed between 2009 and 2013. Of these, we excluded 962 mainly because trials were conducted in a city with an AMC but the name of the AMC was not reported, leaving 305 trials across 13 AMCs. Overall, 120 of 305 trials (39%) had posted results on ClinicalTrials.gov and 218 (71%) had published their results via journal publication. Sixty-two trials (20%) still had not disseminated their results.

Conclusions

More than five years after all studies completed, 20% of them had not disseminated their results, which wastes public resources and negatively affects decision-making in medicine. The rates of clinical trial results dissemination may be increased by developing policies highlighting the ethical duty to publish the results within 24 months after trial completion date. Moreover, study sponsors should enforce timely results reporting. Furthermore, public debate and broad motivation may be also helpful to solve the problem of delayed and non-reporting.

Differences in clinical manifestation of patients with Listeria monocytogenes and Tuberculous meningitis: A single center retrospective study

Author(s): Carlo Bieńkowski Medical University of Warsaw, Poland Presenting author: Carlo Bieńkowski Tutor(s): Marcin Paciorek, Andrzej Horban

Introduction:

Bacterial meningitis (BM) is a life-threatening infectious disease. Both tuberculous meningitis (TM) and listeria meningitis (LM) are associated with increased mortality rate compared to other bacterial meningitis. Discrimination between tuberculous meningitis and meningitis caused by Listeria monocytogenes might be particularly difficult due to high prevalence of immunocompromized and elderly patients in both groups.

The aim of the study:

The aim of the study was to compare the clinical manifestation, laboratory features and outcome of TM and LM.

Material and methods:

All medical charts of patients diagnosed with community-acquired bacterial meningitis between January 2010 and September 2019 in the Department of Adult's Infectious Diseases were analyzed. LM and TM groups were compared with each other and to patients with BM caused by non Listeria and non Tuberculosis meningitis (nLnTM).

Results:

Out of 402 enrolled patients with BM there were 28 patients with LM (7.0%) and 23 patients with TM (5.7%). Patients with TM compared to patients with LM were more likely to present with hydrocephalus (p<0.001), scored lower on the Thwaites Index (TI) (p<0.001) and had longer duration of symptoms before the hospital admission (p=0.001). Furthermore, patients with TM had lower concentration of c-reactive protein (CRP) (p<0.001) and lower white blood cells (WBC) count (p=0.035) compared to patients with LM. TM group compared to patients with nLnTM had lower concentration of c-reactive protein (p<0.001), lower concentration of procalcitonin (PCT) (p<0.001), lower white blood cells count (p<0.001), lower chloride cerebrospinal fluid (CSF) concentration (p<0.001) and lower granulocyte percentage of CSF cytosis (p<0.001). Moreover TM patients were more likely to present with hydrocephalus (p<0.001), aphasia (p=0.003) and hemiparesis (p=0.008) compared to nLnTM group. LM group compared to patients with nLnTM had lower concentration of CRP (p=0.01), lower white blood cells count (p<0.001), lower chloride concentration CSF (p<0.007) and lower granulocyte percentage of CSF cytosis (p<0.016). LM patients were more likely to be anyhow immunocompromized (p=0.015), have cancer (p=0.008) and receive immunosuppressive treatment (p<0.001).

Conclusions:

LM and TM patients have similar differences in laboratory findings compared to nLnTM patients. Lower TI score, longer duration of symptoms, presence of hydrocephalus, lower concentration of CRP and lower WBC count is characteristic for TM patients when compared to patients with LM.

Bowel obstruction as a sign of intestinal tuberculosis: A case report

Author(s): Carlo Bieńkowski, Marcin Sitnicki Weronika Lewandowska, Paweł Sobieszczuk Medical University of Warsaw, Poland Presenting author: Carlo Bieńkowski Tutor(s): Wanda Lusawa-Józefowicz, Marek Olewiński

INTRODUCTION

Intestinal obstruction is a condition in which the passage of digested food through the digestive tract stops. Intestinal tuberculosis is a rare infectious disease caused by Mycobacterium tuberculosis. The disease is most often caused by swallowing of infected sputum in the course of pulmonary tuberculosis. The main risk factor for tuberculosis is immunodeficiency.

CASE REPORT

On October 4, 2019, a 39-year-old man was admitted to the Surgery Department at the Hospital in Minsk Mazowiecki due to abdominal pain, vomiting, gas and stool retention. In the history the patient had severe stomachache lasting for two weeks. The day before admission, when trying to eat food vomiting ocurred, and the patient gave his last stool the same day. The physical examination revealed cachexia, planked abdominal pain, painful at palpation and lack of peristalsis. Laboratory tests have shown elevated inflammatory markers. An abdominal CT was ordered, which showed obstruction, most likely caused by a torsion of the intestine. Due to signs of gastrointestinal obstruction, the patient had a laparotomy, where the macroscopic picture of the intestines suggested further differential diagnostics for Crohn 's disease and intestinal tuberculosis, so lymph node samples were taken for histopathological examination. Chest X-Ray examination was performed, which showed a characteristic picture for tuberculosis. Testing towards HIV was negative. Due to the large reasons for tuberculosis etiology, anti-mycobacterial therapy was administered. Sputum was also collected from the patient for microbiological tests (direct microscopy, culture and Ziehl-Neelsen staining). The direct microscopy was negative, while the culture and staining of the sputum preparation were positive. Moreover, histopathological examination of the enteric lymph nodes confirmed the presence of Mycobacterium tuberculosis. After confirming the diagnosis: intestinal tuberculosis, the patient was transferred to a reference center dealing with tuberculosis treatment (in Otwock) for further treatment.

CONCLUSIONS

In addition to the most common form of tuberculosis (pulmonary tuberculosis), other forms may also occur with the involvement of other organs, including the intestines. Intestinal tuberculosis may manifest as gastrointestinal obstruction. Tuberculosis can occur in people with immunodeficiencies. It should be remembered that malnutrition may be the cause of immunodeficiency.

Physical activity of people permanently staying in Bydgoszcz assessed using the International Physical Activity Questionnaire - IPAQ

Author(s): Anna Ziółkowska, Eliza Oleksy Paulina Kasperska, Adriana Wielgus Nicolaus Copernicus University in Torun, Poland Ludwik Rydygier Collegium Medicum in Bydgoszcz, Poland Presenting author: Anna Ziółkowska Tutor(s): Kornelia Kedziora-Kornatowska

Introduction:

In the era of promoting an active and healthy lifestyle, it is necessary to conduct research aimed at determining the current level of physical activity of the inhabitants of Bydgoszcz. Acquiring this knowledge will enable future comparisons and study how the activity of residents changes over the years.

Purpose of the research:

The aim of the study is to receive knowledge on the physical activity of Poles living in Bydgoszcz.

Material and methods:

199 people residing in Bydgoszcz took part in the study. Among these people there were 97 women and 102 men. The average age of people taking part in the study: 37.7 years, average BMI: 25.84. The Polish version of the IPAQ questionnaire - Long version was used for the study.

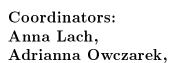
Results:

3.52% (n = 7) of respondents are characterized by insufficient physical activity, 12.06% (n = 24) of respondents are characterized by sufficient physical activity, 84.42% (n = 168) of respondents are characterized by high physical activity.

Conclusions:

Physical activity of people staying in Bydgoszcz is at a high level, but the presence of people with insufficient level of activity requires taking actions aimed at educating residents in this area.

Psychiatry and Psychology



Jury:

dr hab. n. med Dominik Strzelecki, dr. hab. n. med. Tomasz Pawełczyk, dr n. med. Paweł Rasmus, lek. Wojciech Łężak, dr n. med. Małgorzata Urban-Kowalczyk,

Co-localization of amyloid-beta, tau and prion protein in cases of Creutzfeldt-Jakob disease with advanced Alzheimer pathology

Author(s): Szymon Bazaniak Medical University of Lodz, Poland Presenting author: Szymon Bazaniak Tutor(s): Beata Sikorska

Introduction It has been recently suggested that neurodegenerative disorders including Alzheimer's disease (AD) are in reality prion-like diseases caused by misfolding proteins. Alzheimer's disease is histopathologically characterized by the deposition of amyloid beta (A beta) in senile plaques and by intraneuronal neurofibrillary tangles (NFTs) consisting of aggregated abnormal phosphorylated tau protein. Recently, cellular prion protein (PrPC) was reported as a receptor for toxic A beta species. PrPC in AD cases had been detected in amyloid plaques and neurons and within amyloid plaques, also dystrophic neurites of neuritic plaques exhibited PrPC. PrPC was also considered to be enriched in postsynaptic densities leading to Fyn kinase activation, which in turn phosphorylates the GluN2B subunit of NMDA receptors. In addition, Fyn phosphorylation of tau has been widely demonstrated. Since A beta oligomers can initiate PrPC-Fyn-related phosphorylation of tau, the question arises whether PrPC is involved in the interplay between A beta and p-tau pathology propagation. While numerous studies have demonstrated that PrPC is present in dystrophic neurites and amyloid plaques in AD much less is known about co-localization of A-beta and tau protein with pathological isoform of prion protein (PrPSc) in cases of Creutzfeldt-Jakob disease with concomitant Alzheimer pathology.

Aim of the study The aim of this study was to examine the distribution and co-localization of PrPSc, amyloid beta and tau protein in Creutzfeldt-Jakob disease with advanced Alzheimer pathology.

Material and methods Formalin fixed and paraffin embedded tissues from two brains of patients with neuropathologically confirmed Creutzfeldt-Jakob disease an Alzheimer's disease as well as two brains of patients Alzheimer's disease were used in the study. Immunohistochemistry for amyloid-beta, tau, prion protein, neurofilaments and GFAP was performed in selected brain regions. To assess co-localization of the proteins double and triple fluorescent labelling was done and evaluated with confocal laser microscope.

Results We observed presence of PrPSc in and around senile plaques in CJD-AD cases. There was also co-localization of PrPSc and hyperphosphorylated MAP-tau protein in dystrophic neurites in CJD-AD cases, but this phenomenon was not present in neurofibrillary tangles. In line with previous studies we also observed PrPC and PrPSc in dystrophic neurites in AD brains.

Conclusions It was hypothesized that PrP not only acts as receptor for A-beta but also promotes A-beta plaque formation. Our results showing that prion protein is present in amyloid plaques are in line with these studies. Accumulation of prion protein in dystrophic neurites suggests that it plays a role in axonal transport or its disturbances.

The Concept of Post-consciousness And Its Role in Human Behaviour

Author(s): Hashim Talib Hashim University of Baghdad, Iraq Presenting author: Hashim Talib Hashim Tutor(s): Talib Manea

Introduction

Post-consciousness is a state of consciousness overlapping consciousness and unconsciousness. This concept of consciousness is developed to explain what is not explained by the other concepts of consciousness, the reaction of a person after committing a mistake.

Methodology

The Study reported here is a cross sectional study involved 112 participants from 25 countries with higher educational levels. We tested them for reliability (Two way mixed effect) and used Pearson correlation coefficient which was significant at 0.01 (R = 0.00).

Results

The majority (67%) said that when they committed a mistake or did something wrong, their behaviors changed and became more careful. The majority (85.7%) said that their minds were responsible for these changes.

Conclusion

There were not significant differences between age or gender and other variables.

Physical efficiency and depressive symptoms of out- and inpatients in Department of Internal Medicine, Asthma and Allergy - a cross section study

Author(s): Magdalena Figat, Aleksandra Wiśniewska Marcin Kaszkowiak, Grzegorz Kardas Medical University of Lodz, Poland Presenting author: Magdalena Figat Tutor(s): Michał Panek

Introduction:

The physical efficiency defines the human ability to solve any motor task or the ability to do any muscle work efficiently and economically. Besides the motor features, this term also includes a mental factor. Even if the motor or mental features of a patient are insufficient, this may still not result in detectible symptoms. It is thus important to define which changes in physical efficiency and in mental state of a patient might hint to a beginning of health problems leading to deterioration of patient's quality of life.

Aim of study:

To analyse the physical efficiency of the participants qualified to out- or inpatients treatment in Department of Internal Medicine, Asthma and Allergy and to analyse the assessments tests of the mental state (depressive symptoms) to the state of physical efficiency and investigate a potential link between them.

Material and methods:

The study methods comprised of three tests. Two of them: the short version of Geriatric Depression Scale [GDS] and the Hamilton Scale [HS] were used to examine patents' current mental state in terms of depressive symptoms. The third was the Fullerton test [FT], which analyses the physical efficiency in 6 different features of a geriatric patient. It consists of 6 examinations, such as: Chair Stand, Arm Curl, 2-Min Step, Chair Sit-&-Reach, Back Scratch, 8-Ft Up-&-Go.

The including criterion was age over 18 years old.

Results:

A total of 54 participants took part in this study. The average patient's age was 54 years (p=0.4515). The average score in GDS was 2 points and in HS 3 points, which are correct values according to the appropriate scoring tables. What's more, on average patients were not able to perform all of 6 examinations of FT in full. Only 1 of 54 patients performed all 6 physical examinations of FT physically properly , and 2 patients performed 5 of them .

The correlation between FT and GDS or FT and HS, which were statistically significant [p<0,05], was shown in five of the six examinations. Four of them [Chair Stand: vs.GDS -0,53/ vs.HS -0,73; Arm Curl: -0,33/-0,49, 2-Min Step: -0,37/-0,38, Back Scratch: -0,29/-0,32,] showed

Disruption of circadian clock proteins in obstructive sleep apnea patients

Author(s): Szymon Turkiewicz Medical University of Lodz, Poland Presenting author: Szymon Turkiewicz Tutor(s): Agata Gabryelska, Marcin Sochal Piotr Białasiewicz

INTRODUCTION: Circadian clocks are endogenous coordinators of 24-hour rhythm of behavioral and molecular processes in living organism. It is composed of set of genes, which function as activators - CLOCK and BMAL1, which through binding to regulatory elements containing E-boxes activate transcription of repressor proteins Period (PER1) and cryptochrome (CRY1).

THE AIM OF THE STUDY: The aim of the study was to assess: CLOCK BMAL1, PER1 and CRY1 in obstructive sleep apnea (OSA) patients.

MATERIAL AND METHODS: The study included 20 individuals, who underwent PSG and based on apnea-hypopnea index (AHI) were divided into severe OSA group (n=10; AHI 30; 90% male) and healthy control (n=10; AHI<5; 70% male). All participants had their peripheral blood collected in the evening (9:00-10:00 pm) before and in the morning (6:00-7:00 am) after the PSG. CLOCK, BMAL1, CRY1 and PER1 protein concertation measurements were performed using ELISA.

RESULTS: Increased level of following proteins was observed in OSA group: evening CLOCK (p=0.037), morning CLOCK (p=0.019), morning BMAL1 (p=0.16), evening PER1 (p=0.004), morning PER1 (p=0.029) and evening CRY1 (p=0.035). Yet, no significant difference was found between morning and evening level of any of the proteins in OSA and control group. Additionally, morning level of activator proteins CLOCK and BMAL1 had positive correlation with AHI (respectively, p=0.022, R=0.510 and p=0.010, R=0.560) and desaturation index (respectively, p=0.209, R=0.487 and p=0.009, R=0.570), while for repressor proteins PER1 and CRY1 significant correlations were found in the evening with desaturation index (respectively, p=0.025, R=0.500 and p=0.048, R=0.448), AHI in REM stage (respectively, p=0.009, R=0.569 and p=0.027, R=0.495) and AHI (for PER1 only p=0.014, R=0.540).

CONCLUSION: OSA patients have increased level of circadian clock proteins that corelates with severity of the disease. Further research is needed into the disruption of circadian clock should in OSA patients and possible effect of OSA treatment on these proteins.

The study was financed by Polish National Centre Grant no. 2018/31/N/NZ5/03931.

Anthropology of male sexuality - a natural born fetishism?

Author(s): Katarzyna Jarzębska, Tomasz Cyganek Medical University of Silesia in Katowice, Poland Presenting author: Aleksandra Bąk Tutor(s): Marek Krzystanek

Introduction

Fetishist behavior, such as sexual interest in the feet, is one aspect of the richness of sex life. There is a hypothesis that the culture in which we are brought up has an impact on the formation of our sexuality, but is it true?

Aim of the study

Studies from previous decades showed that it occurs in about 40% men. We assumed that due to the spread of erotic pornography the number of these behaviors could have increased. That is why we decided to examine the incidence and intensity of foot fetish activities in men.

Material & methods

We collected internet surveys from March 2019 to February 2020. The questionnaire for men contained 22 questions about sexual arouse related to feet. Women were asked about occurrence of the fetishist behavior at the partner's and how they feel about it.

Results

We asked 277 women (mean age 22.16 ± 3.07) and 314 men (mean age 22.6 ± 3.66). 38,69% women admit their partners like to watch feet, 15,3% met sexual partner who used their feet for sexual satisfaction. 62.92% heterosexual men replied the look of their partner's feet is important, of which 34.46% excite some, 57% significantly. 5.6% prefer foot to other body parts and 5.2% are unable to achieve sexual satisfaction without using their feet. 21.25% could not be with a person whose feet they do not like. Most respondents noted fascination with this body part in junior and high school(13.86% and 11.99%) but fewer noticed it studying or always feel this way(5.6% and 6.7%).

Conclusions

Our study showed that despite easier access to sex education the intensity of fetishist behavior remain at similar level. Interestingly we can notice early occurrence of feet fascination. That may raise the question whether we are born with our sexual preferences?

The impact of massive atrophy of brain structures on patient functioning.

Author(s): Zofia Pietrzak, Anna Kolano Martyna Stefaniak, Piotr Dzikowski Uniwersytet Medyczny w Lublinie, Poland Presenting author: Zofia Pietrzak Tutor(s): Jacek Baj

INTRODUCTION

Brain atrophy is mainly caused by brain cortex loss accompanied by the expansion of intracranial fluid spaces: cerebral sulci and fissures, cisterns and ventircular system. The most common causes of this condition include natural aging, neurodegenerative processes, vascular pathologies, post-traumatic conditions, toxicosis, as well as infectious diseases and degeneration. A case of brain atrophy in a 67-year-old patient is described below.

CASE REPORT:

For the first time, she was directed to the Psychogeriatric Ward in April 2016. She had never been treated psychiatrically before. Two years earlier the patient worked as a doctor and no objections were raised about her mental state. It is known from the anamnesis that she suffers from CKD, hypothyroidism, organic mood and personality disorders, somatogenic delirium and vascular brain damage. In addition she has a dependence syndrome caused by psychoactive drugs. During admission the patient was conscious, auto- and allopsychically oriented. In the anamnesis: depressed mood, sleep disorders, circadian arrhythmias, anxiety and mainly fresh memory disorders. She did not report suicidal thoughts. The last, hospitalization took place in 2019 and was caused by the intensification of symptoms. In CT massive cortical - subcortical atrophy, inadequate to the clinical picture was observed. Treatment with depakine CR up to 1000 mg / day, gave good results.

CONCLUSIONS:

The degree of brain atrophy depends on the patient 's age, genetic predisposition, causative factor and time of its action. Progressive process leads to organic damage, and neurological disorders: kinetic, cognitive decline, mood stability. Until today, no other than symptomatic treatment was invented. In this case, there is a huge discrepancy between the degree of CNS damage and intellectual performance. The patient soon began to lose cognitive performance whereas the picture of the disease did not correspond to any of the known types of dementia.

Study of the needs and beliefs about vaccinating parents of children with AD

Author(s): Natalia Skorzycka, Marta Boczkowska Szymon Bazaniak Medical University of Lodz, Poland Presenting author: Natalia Skorzycka Tutor(s): Marta Boczkowska

Introduction: Vaccination is considered to be one of the greatest medical achievements in the field of public health. Unfortunately, their effectiveness may decrease dramatically in the future due to the increasing number of unvaccinated people in the population. The reason for this situation may be: stereotypes widespread in the society and information contrary to evidence-based medicine. Vaccination causes more and more fear, uncertainty and strong concerns about side effects in the form of vaccination reactions among parents (NIZP-PZH, GIS, 2018). A particularly sensitive group in this matter are the parents of children with atopic dermatitis. AD is a disease widely recognized as an obstacle to vaccination although in reality it does not constitute such contraindications (Gruber et al., 2008).

Aim of the study: The aim of the study was to pilot and collect data to better understand the needs and beliefs regarding vaccination in the group of parents of children with AD (N=152).

Material and methods: The procedure involved two stages of testing. At the first stage, a research was conducted in which parents of children with AD were asked questions, including verifying the knowledge of contraindications for use of the vaccine MMR combined against measles, mumps and rubella, which is particularly worrying. The research was conducted online using a survey questionnaire. At the second stage, the respondents completed the S. Schwartz 's PVQ-RR-f Questionnaire (in the Polish adaptation of J. Cieciuch, 2013), which allowed them to obtain information on the professed by them important values.

Results: The results of the research show that 28.6% of respondents think that AD is a contraindication for children vaccination. At the same time, 23.5% of research parents believe that MMR vaccine can cause autism. Over half of the respondents (53.8%) answered the question "Can people with a severe allergy to chicken eggs receive MMR vaccines safely?" in the negative. 31.1% say vaccinations are not safe. The results of S. Schwartz 's PVQ-RR-f Questionnaire have showed that the most important value that parents follow is - caring for the well-being of close relatives, family members, groups of friends - benevolence-caring (BEC).

Conclusions: There are still stereotypes that MMR vaccine causes autism and that AD is a contraindication for MMR vaccination. In their views, parents are guided by values such as caring for the well-being of their loved ones, the more difficult may be the influence aimed at overthrowing false beliefs about vaccinations. It is necessary to develop better forms of vaccination promotion and health education for parents of children with AD. There is a need to develop manuals educating doctors in the field of communication with parents of children with AD, which will take into account qualitative and quantitative data on beliefs and values they may profess.

Knowledge and attitudes towards suicide as well as protective factors in affective disorder: an observational study

Author(s): Ariana Martín Lobera, Melanie Lenger Eva Reininghaus, Anna Holl Karl-Frandrzens Universitat, Austria Presenting author: Ariana Martín Lobera Tutor(s): Elisabeth Weiss, Nina Dalkner

Being one of the leading causes of death worldwide, suicidality is a complex public health challenge. Different factors can interact on a person's suicidal behavior. For instance, mental disorders represent a major risk factor for suicide and therefore strengthening protective factors in risk groups is an important goal of suicide prevention. Knowledge as well as attitudes and stigma about suicide also play a substantial role. In the present study the aim was to compare protective factors like the Reasons for Living (RFL), resilience, social support, and physical and mental health as well as knowledge and attitudes about suicide among bipolar patients (n = 20), major depressive patients (n = 20) and mentally healthy adults (n = 20). Furthermore, the aim was to analyze predictors of suicidality among affective patients.

Following data collection through questionnaires, data were analyzed using analyses of covariance, correlations and regression. Although the three groups did not differ in their knowledge and attitudes towards suicide, knowledge about suicidality was poor in all three groups. Healthy adults showed higher resilience as compared to unipolar-depressed patients. Religiosity explained a significant part of the group variance in RFL. Resilience correlated positively with RFL and negatively with depression. Among affective patients, depression, but not social support or physical and mental health could predict suicide risk. Compared to existing findings, this study confirms that knowledge about suicide is generally poor and that depression seems to be the most reliable predictor of suicidality. In conclusion, the present study underlines the complexity of the interaction between different risk and protective factors for suicidality.

The Effect of verbal abuse on the Mental Health of Children

Author(s): Esther Bassey University of Uyo, Nigeria Presenting author: Esther Bassey Tutor(s): Oyewunmi Ajayi

Introduction

In recent years, the issue of mental health has become a global concern due to the rise in mental illnesses. And it is widely known that childhood experiences play a vital role in the life of any human. Hence, it has become important to determine the effect of certain actions carried out on a child. One of these actions is verbal abuse which is popular (especially in Africa) in the process of child training. Therefore, this research is aimed at evaluating the consequences of verbal abuse on their mental health.

Aim of Research: To find solutions to certain mental health issues.

Materials and methods

A study was carried out between November and December, 2019 on 360 randomly selected school children through informal interviews and questionnaires, in Uyo, Nigeria. 30% were aged 3-6, 40%, 7-10 and the other 30% were aged 11-14.

Results

It was seen that among the 360 children, 70% have been verbally abused. 10% of this percentage being age 3-6, 30%, aged 7-10 and 30%, aged 11-14. 90% of the verbally abused children were found to have low self-esteem as well as tendencies to be depressed as a result of the abuse.

Discussion and Conclusion

The state of the mind is a major factor in determining well-being and since childhood experiences often last a lifetime, it is vital to ensure that certain methods used in the process of child training are stopped. This will go a long way to ensure the birth of a mentally healthy generation. Therefore, going by the research results, it is clear that verbal abuse is dangerous to the mental health of the child and thus, should be stopped.

Key Words

Verbal abuse, effect, mental health, children.

Stress associated with undergraduate medical courses: A translation and validation of the Perceived Medical School Stress Instrument into Polish and its adaptation to the Polish environment

Author(s): Wojciech Marchewka, Zofia Loster Jakub Marchewka, Katarzyna Olszewska-Turek Jagiellonian University Medical College, Poland Presenting author: Wojciech Marchewka Tutor(s): Grzegorz Kopeć

Introduction

Medical students are more susceptible to depression than other students. Moreover, students with the symptoms of depression statistically more often abuse drugs and have suicidal thoughts and anxiety. The level of stress and the factors that lead to in among medical students at Polish universities have not yet been measured.

Aim of study

The aim of this study was to translate to Polish and validate the Perceived Medical School Stress Instrument (PMSS-PL) and to measure the resulting version's psychometric abilities.

Material and methods

We validated the Polish translation of PMSS in accordance with the recommendations published by the Translation and Cultural Adaptation group of the Quality of Life Special Interest group of the International Society for Pharmacoeconomics and Outcomes Research. The Perceived Stress Scale (PSS-10) was used as an external test to validate the PMSS-PL questionnaire. A total of 430 undergraduate medical students at the Medical College of Jagiellonian University took part.

Results

The mean PMSS-PL score was 36.43 (SD = 8.44), and it varied from 13 to 65. The mean PSS-10 was 21.35 (SD = 6.98) and it varied from 4 to 40. The internal reliability, as indicated by Cronbach's alpha, was 0.803, which means there was internal reliability between PSS-10 and PMSS-PL. Moreover, all questions from PMSS-PL had a positive discrimination power, so each question correlated positively with the other questions in PMSS-PL. The theoretical relevance was statistically significant (p < 0.05) and positive, meaning that the higher the PSS-10 score, the higher PMSS-PL score.

Conclusions

PMSS-PL may be used to psychometrically analyze the stress load on undergraduate medical students at Polish universities. The PMSS-PL may also be used as an external test for validating and calculating the reliability and accuracy of other psychometric instruments that measure general stress.

FEATURES OF EMOTION-REGULATION SKILLS AND EMOTIONS IN PATIENTS WITH DEPRESSION AT VSIA RPNC OUTPATIENT CENTERS

Author(s): Ilana Aleskere Riga Stradiņš University, Latvia Presenting author: Ilana Aleskere Tutor(s): Maris Taube

Introduction:

According to WHO, current prevalence of depression in Europe is about 4.3%. The major symptoms of depression, anhedonia and depressed mood, are strongly associated with negative emotions, such as fear, shame, sadness and similar. Individuals suffering from depression, often report difficulties identifying their emotions, accepting and tolerating negative

emotions, and effectively modifying them. It has been shown in several studies, that symptoms of depression are positively associated with ruminating, catastrophizing and expressional suppression.

Aim of the study: The purpose of the study is to evaluate emotions and emotion-regulation skills in patients suffering from depression and compare them to healthy adults.

Materials and methods: Cross-sectional study with an Emotion-regulation skills questionnaire (Berking & Znoj, 2008). Study was performed at VSIA RPNS outpatient centers "Veldre" and "Pārdaugava". The control group of same count of healthy individuals matching by age, gender and education level was included in the study. Descriptive statistics were done using Microsoft Excel and SPSS Statistics (v23.0).

Results: In total, 36 patients (80% women) aged 21-70 were included in the study. There was a significant difference between group of patients with depression and control group in experiencing emotions of fear (p=0.034), anger (p=0.001), sadness and depression/negative emotionality (for both p=0.000), with anger being more frequently and other emotions less frequently experienced by control group, with depression patients having negative affect (p=0.017) more expressed than positive affect (p=0.000).

There was a significant difference between group of patients with depression and control group in awareness (p=0,012), sensations (p=0,047), clarity (p=0,017), understanding (p=0,001), tolerance (p=0,004), ability to confront (p=0,005), modification (p=0,000) and total regulation (p=0,000) of emotions.

There was found a strong correlation between stress level and acceptance (p=0,05, r=0,340), ability to confront (p=0,002, r=0,494) and total regulation of emotions (p=0,032, r=0,359).

There were no findings of correlation between any emotions or emotion-regulation skills and gender, age, occupation, education level or marital status.

Conclusion:

There are high levels of negative emotions and weaker emotion-regulation skills in patients with depression comparing to healthy individuals.

Evaluation of the prevalence of eating disorders in the population of medical students and law students from Warsaw and their impact on learning outcomes.

Author(s): Karolina Mikołap, Kinga Szczepanik Medical University of Warsaw, Poland Presenting author: Karolina Mikołap Tutor(s): Maja Herman

INTRODUCTION

Eating disorders are mental disorders which affect around 1-3% of the society. Research show that these patients may often be perfectionist and have a strong strive for success.

AIM OF THE STUDY

We aimed to estimate the prevalence of eating disorders among law and medical students and to assess their impact on academic achievements.

MATERIAL AND METHODS

A conducted questionnaire was based on the EAT-26 test, in which a score of 20 or more points indicates a high risk of eating disorders. The questionnaire also contained original questions about academic performance and behavioral patterns. 370 responses were collected from students of the Medical University of Warsaw and the Faculty of Law and Administration of the University of Warsaw. The data were analyzed using the Chi-square test and the Yates 's correction for continuity.

RESULTS

The study showed that 23.51% of polled students scored 20 or more points. However, only 11% of all students have been diagnosed with an eating disorder. Further analysis showed that 22% felt the urge to vomit after meals, and 16,5% actually did it. 83% said that they sometimes "think there is too much fat in their bodies" and 95% declared self-controlling during meals. A statistically significant correlations were found between the high EAT-26 score and perfectionism (p=0.0085) and unhealthy behaviors like vomiting, using laxatives or diuretics to lose weight or eating binges (all p<0,0005) which affected up to 55% of polled students. In some parameters (as being satisfied with their figure and feeling they sometimes cannot learn as much as their academic teachers require) results differ a lot between law and medical students' populations. Others (i.g. dread of being overweight; weight affecting their self-esteem) were on similar levels in both groups. Some individuals with a high EAT-26 score were more often unhappy with their learning outcomes and they needed more time to study certain topics than their peers.

CONCLUSIONS

The prevalence of eating disorders in polled students was higher than in the general population. An alarming number of students demonstrate incorrect thinking about their body and unhealthy behavioral patterns. Eating disorders also affect learning. Results of this study may be useful for university officials to increase education on that matter, pay more attention to students' eating behaviors and their attitudes towards academic performance, as many students felt they do not meet the requirements from their professors.

Why does the fire burn out? Analysis of occupational burnout among medical students of three polish universities.

Author(s): Karolina Petroniec, Tomasz Klocek Śląski Uniwersytet Medyczny, Poland Presenting author: Karolina Petroniec Tutor(s): Krzysztof Krysta, Ewa Martyniak

Introduction: Occupational Burnout (OB) is a condition that can severely impair work efficiency and mental health. There are many studies regarding OB in medical professions, but few involving medical students (MSs).

Aim: (1)To assess the prevalence of OB in MSs of 2 nd and 5 th years in Medical University of Silesia (MUS), Wrocław Medical University (WMU) and Medical University of Białystok (MUB). (2)To compare students of MUS, WMU and BUM regarding presence of OB. (3)To assess factors connected with severity of OB in MSs of universities listed above.

Material and methods: This survey was performed in 01.2020. We used self-designed questionnaire consisting of 40 questions regarding demographics, mental health, lifestyle and subjective evaluation of attended university as well as an OLBI questionnaire consisting of 16 questions, which evaluates OB, assigning a numeric scale 1-4 to given answers. Cutoff point for discerning low OB was determined at 44 points, moderate OB at 52 and high OB at 60 out of 64 possible. The survey was sent to MS s in 2 nd and 5 th year of above medical universities.

Results: The study group comprised 377 MSs (34% males, median age 23 years, IQR 21-24); 61% from MUS (37% 2 nd year); 17% from WMU (29% 2 nd year); 22% from MUB (28% 2 nd year). Overall number of students assessed with OB was 223 (60%). Out of this 28% were 2 nd years (68% MUS, 11% WMU, 21% BMU) and 72% were 5 th years (62% MUS, 16% WMU, 22% BUM).138 (62%) out of 223 students were classified as low OB, 78 (35%) as moderate OB and 7 (3%) as high OB. Comparison between universities did not show significant differences in number of students assessed with OB. Number of 5 th years assessed with OB was significantly higher than 2 nd years in MUS (p=0.005). Students who present better quantity and quality of sleep, travel more often, spend more time on curricular activities and exhibit higher satisfaction with their university are significantly less burnt out (p<0.01). Those who changed their habitat, were previously diagnosed with mental illnesses are significantly more prone to suffering from OB (p<0.05). Comparison of students with and without OB regarding sexual activity, time spent on various hobbies and usage of substances (i.e alcohol) did not show significant differences.

Conclusions: MSs assessed with OB of 44 and above measured with OLBI constitute a majority of our study group thus shows that presence of OB is a serious issue that needs to be verified among wider population. Furthermore, absence of differences between studied universities shows prevalence of OB regardless of methods and curriculum of a medical school. Our study also shows importance of proper quality and quantity of sleep along with regular changes of environment in form of traveling in combating OB along with its complications. Choosing the adequate place of study is also crucial in preventing OB as higher satisfaction with an university correlates with lower burnout measured with OLBI scale.

Characterization of insomnia phenotype among obstructive sleep apnea patients

Author(s): Oliwia Weiner, Adrianna Owczarek Uniwersytet Medyczny w Łodzi, Poland Presenting author: Oliwia Weiner Tutor(s): Agata Gabryelska, Marcin Sochal Piotr Białasiewicz

INTRODUCTION:

Obstructive sleep apnea syndrome (OSA) is a chronic condition characterized by recurrent pauses in breathing during sleep, which cause arousals and sleep fragmentation.

Excessive daily sleepiness (EDS) is one of the most often reported complaints. However, many individuals report additionally symptoms associated with insomnia.

AIM OF STUDY

Characterization of insomnia phenotype of OSA with and without presence of EDS.

MATERIALS AND METHODS:

Ninety-four individuals refereed to Centre for Diagnostics and Treatment of Sleep and Respiratory Disorders with presumptive OSA diagnosis, who underwent PSG were included in the study. All participants were asked to fill following questionnaires: Athens Insomnia Scale (AIS), Insomnia Severity Index (ISI), Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS) and Becks' Depression Inventory (BDI). Based on the results participants were assigned to one of the fourth groups: insomnia+EDS+, insomnia+EDS-, insomnia-EDS-, insomnia-EDS-.

RESULTS:

In polysomnography parameters, the groups differed from each other in sleep latency onset (p=0.049), absolute time in REM stage (p=0.026) and percent of total sleep time that was REM (p=0.014). Additionally, significant difference in age was observed between the groups (p=0.027). No differences were OSA severity measured by observed in apnea-hypopna index (AHI), BMI and desaturation parameters (p>0.05). Further, in comparison between insomnia+EDS+ and insomnia-EDS-, the former had significantly higher median BDI result (p=0.016; 13 vs. 6.5).

CONCLUSION:

OSA patients regardless of disease severity can suffer from coexisting insomnia, which is associated with decreased mood level. Therefore, it is important to screen OSA patients for insomnia symptoms, as they may require additional treatment.

Depression and compliance in hemodialysis patients

Author(s): Szymon Mizera, Alan Osuch Aleksandra Bąk, Tomasz Cyganek Medical University of Silesia, Poland Presenting author: Szymon Mizera Tutor(s): Damian Gojowy, Marcin Adamczak Andrzej Więcek, Krzystof Krysta

INTRODUCTION

Lack of compliance is well-known limiting factor in achievement of the therapeutic targets in medical care. The frequency of noncompliance as well as the factors contributing to this condition are currently not well understood. In hemodialyzed patients lack of precise adherence to medical recommendations is particularly important for long time survival. Depression occurrence may have an adverse impact on the medical compliance of these patients.

AIM OF THE STUDY

The aim of this study was to analyze prevalence of depression symptoms and its impact on compliance to medical recommendations in patients on chronic hemodialysis.

MATERIAL AND METHODS

Forty (M=26;F=14) patients at the age of $51,3\pm16,6$ undergoing routine hemodialysis session have taken part in a two-part survey consisting: Beck's Depression Inventory and I MB-Q - The Information-Motivation-Behavioural Skills Questionnaire. IMB test includes three subcategories as a basis for tailoring of the model to an individual health-related behavior - a) information about disease and treatment, b) motivation and c) behavioral skills to comply with treatment. Additionally, in all patients weight gain between dialysis session was analyzed.

RESULTS

Seventeen patients (47.5%) fulfilled depression criteria, out of which 5 (12.5%) had moderate or severe grade disease. Depression symptoms were inversely correlated with behavioral skills to comply with treatment measured by IMB-Q test in men (r= -0,416; p=0,034). There was no significant correlation between results of Beck Depression Inventory and body mass change between dialysis sessions. There was also no significant difference in the interdialytic weight gain between patients with and without depression (3.3% vs 2.6% of body weight, respectively).

CONCLUSIONS

- 1. Depression is frequently found in patients with end stage kidney disease treated with chronic hemodialysis.

 2. Male hemodialysis patients with depression are less likely to be compliant to medical recommendations because of weaker behavioral skills.3. Improvement of the compliance in hemodialysis patients may play an
- important role in the prolongation of life in these group.

The association between chronotype, mindfulness and minor psychiatric disorders among medical students.

Author(s): Karol Sadowski, Dominika Sadowska Medical University in Łódź, Poland Presenting author: Karol Sadowski Tutor(s): Łukasz Mokros, Tadeusz Pietras

INTRODUCTION

Working in the medical profession and studying Medicine demand huge personal resources, both intellectual and emotional. Chronotype is regarded as a personal preference towards an optimal time of day for functioning and is tightly connected to actual activity fluctuations. Another defining part of mental functioning is mindfulness, understood as acting with awareness of what one is feeling or doing. It is an ability to focus on the present in an open, non-judgemental way.

AIM OF STUDY

The aim of the study was to verify whether chronotype and dispositional mindfulness were linked to common non-psychotic psychiatric symptoms among medical students.

MATERIAL AND METHODS

The study group comprised 543 students of the Faculty of Medicine at Medical University of Łódź in the academic year 2019/2020. After informed consent, their task was to complete a battery of questionnaries: the Chronotype Questionnaire (CQ), the Five Facet Mindfulness Questionnaire (FFMQ), and the General Health Questionnaire (GHQ-28). Also, they were asked questions concerning their sex, age, history of somatic and mental disorders. The statistical analysis included: analysis of variance with Bonferroni post-hoc test and Pearson correlation quotients analysis with applied Bonferroni correction to avoid type 1 error.

RESULTS:

History of mental disorders were reported by 17% of the students, with no significant difference between the sexes or study years. The mean GHQ-28 depressive symptoms and anxiety/insomnia scores were significantly higher among 1st year students compared to the 5th year and among women compared to men. CQ Subjective amplitude (AM) score correlated with FFMQ non-reactivity (r=-0.38), aware actions (r=-0.37) and non-judgemental inner experience scores (-0.33, all p<0.01). FFMQ total score correlated with GHQ-28 somatic symptoms (r=-0.30), anxiety/insomnia (r=-0.36), social dysfunction (-0.38) and particularly strong with depressive symptoms indices (r=-0.45, p<0.01). The correlations between CQ morningness-eveningness and GHQ-28 dimensions were non-significant. There were significant correlations between CQ AM score and all four investigated facets of psychiatric symptoms (r from 0.29 to 0.32, p<0.01).

Conclusions:

The study confirmed that low mindfulness may be associated with poor mental health among medical students. Subjective circadian rhythm amplitude, but not eveningness, was found linked to psychiatric symptoms. First year students might require particular attention due to possibility of the highest indices of anxiety and depression. Also, this is the first study reporting on possible association between mindfulness and chronotype.

The embarrassment and shame of people suffering from eating disorders and how family physicians can help alleviate the situation: eating disorders in university students in Łódź, Poland

Author(s): Maria Dobielska, Marzena Ocetek Małgorzata Koziarska - Rościszewska, Praveen Malik Uniwersytet Medyczny w Łodzi, Poland Presenting author: Maria Dobielska Tutor(s): Małgorzata Koziarska - Rościszewska

Introduction

Eating disorders [ED] such as anorexia nervosa and bulimia nervosa are serious mental and behavioral disorders with a complex etiology, also family-based. These conditions may lead to the social withdrawal, anxiety, depression or addiction.

Aim

The aim of the study is to assess the occurrence of ED in university students and research their attitude to the disease and treatment, especially with the help of a family physician.

Material and methods

A survey-based research was performed on university students aged 18-26. The anonymous questionnaire concerned studies, attitude to ED, preferred therapy, previous diagnosis of ED or trigger factors including family relations

The data collected in the questionnaire and measurement data were statistically analyzed using STATISTICA.

Results

We received a total of 651 respondents (Female = 453, Male = 198, Experienced ED directly [EEDD] = 358)

The research revealed that 9,5% (43) of women and 2,5% (5) of men were diagnosed with ED. (p=0,003) EEDD students more often think that patients are stigmatized by society (p=0,0418) and are more likely to argue that ED are caused by abnormal relationships with parents. (p=0,003) Only 19,3% of people who were suspecting they could have ED, decided to ask a specialist.

Up to 64.7% of people who asked a specialist, because they had suspected ED, were diagnosed with ED. Conclusions

ED has proven to be a common problem among university students. Stressful parent-child relationship is a major predisposing factor. The sense of shame prevents students in need from asking for help. Because of the overwhelming embarrassment and family-based onset of the disease family physician has tremendous prospects of diagnosing and treating ED effectively.

Features of hallucinations and delusions in patients stationed in VSIA RPNC with vascular dementia and Alzheimer's dementia

Author(s): Polina Viktorova Riga Stradiņš University, Latvia Presenting author: Polina Viktorova Tutor(s): Elmars Terauds

Aim of the study: To determine the frequency and characteristics of hallucinations and delusions in patients with vascular (hereinafter - VaD) and Alzheimer 's (hereinafter - AD) dementia.

Materials and Methods: A retrospective study was conducted at the Riga Center of Psychiatry and Addiction Disorders from February 2019 to December 2019. The study was conducted by gathering in-patient information from medical reports in June and December 2019 using the VSIA RPNC electronic data processing system. Descriptive statistics were performed using Microsoft Excel (v15.26) and SPSS Statistics (v23.0) software.

Results: 175 patients with definite diagnosis F00 and F01 who were treated at VSIA RPNC in-patient in June and December 2019 were included in the study group.

Hallucinations and delusions were found to be more common in women (59.50% versus 43.20% in men, respectively). In 59.60% of VaD patients, hallucinations and / or delusions were observed and were more common in females (64% versus 45.90% males). A statistically significant difference (p = 0.5) was found between the different age groups at different combinations of hallucinations and delusions. Delusions only and a combination of hallucinations and delusions were more common in patients with VaD with positive psychotic symptoms (25.80% and 29.80%, respectively). The most common type of hallucinations was visual hallucinations (29.8% at VaD and 20.80% at AD), auditory - 13.20% and 4.20% respectively; sensory - 7.30% at VaD, none observed at AD. The most common combination of hallucinations was visual and auditory (17.5%). No significant effect of comorbidities on hallucinations and delusions was identified.

In both patient groups, the most common topic of delusions were delusions of persecution. Of these, delusions about theft were the most common. The most common combination of hallucinations and delusions was visual hallucinations and delusions of persecution - 52%, of which 60.8% had delusions about theft.

Conclusions: Hallucinations and delusions are more common in VaD patients, especially women, than in AD patients. A statistically significant difference was found between different age groups at different hallmarks of hallucinations and delusions, dynamics and presence. In both patient groups, the most common type of nightmares was harm nightmares. Of these, nightmares about theft were the most common topic of nightmares.

Establishment of the effectiveness of psychosocial rehabilitation among outpatients and hospitalized patients by comparing the outcome to the control group

Author(s): Kotryna Liberytė Vilnius University, Lithuania Presenting author: Kotryna Liberytė Tutor(s): Marius Karnickas

Introduction

Psychosocial rehabilitation is a recovery model of mental illness, it is a process of making people hopeful, empowered, skilled and supported during the treatment.

Aim of the study

This research is focused on finding the effectiveness of the psychosocial rehabilitation among outpatients and hospitalized patients by comparing the outcome to the control group.

Material and methods A prospective study was conducted; 75 hospitalized patients and outpatients were interviewed before and after programme of psychosocial rehabilitation; 14 patients of the control group (patients who were constantly visiting primary psychiatric care unit, but not getting services of psychosocial rehabilitation) were interviewed twice in a period of 2, 3 or 4 weeks. The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM) was used. The domains of the questioner are subjective well-being, symptoms, functioning and risk. Statistical analysis was performed using SPSS 23.0. Significance level - p<0.05.

Results A paired-samples t-test was conducted to compare CORE-OM scores among patients before the programme of psychosocial rehabilitation and at the end of it as well as to compare the CORE-OM scores among control group between first and second time of the interview. 47 outpatients completed the questionnaire: 19 women and 28 men, average age of 36.8 ± 11 years; 28 hospitalized patients: 19 women and 9 men, average age of $49.7.8 \pm 16.5$ years and 14 patients in the control group: 10 women and 4 men, average age of 37.86 ± 14.15 years. The most common diagnoses in all groups were schizophrenia, schizotypal and delusional disorders (76.6% outpatients, 53.6% hospitalized patients, 57.1% control group). Significant score differences before the treatment of outpatients (60.93 ± 19.51 points) and after (47.23 ± 21 points), before the treatment of hospitalized patients (42.86 ± 22.14 points) and at the end of it (27.82 ± 16.99 points) as well as in the control group during the first (57.29 ± 21.45 points) and the second interview (47.93 ± 21.7 points) were established (p<0.05). The biggest average score change (15.04 points) was seen in the hospitalised patient group, the lowest change (9.36 points) was seen in the control group. In all three groups all four domains decreased statistically significantly. In the outpatient group the change of the domain of well-being was the most significant, in the group of hospitalized patients and in the control group the biggest changes were seen in the domain of symptoms.

Conclusions The level of distress is statistically significantly lower in psychosocial rehabilitation outpatient, hospitalized patient groups as well as in the control group. The biggest change of psychological distress was established in the hospitalised patient group, the lowest - in the control group.

What happened to the pierrot? - an analysis of artwork of the patient with Alzheimer's disease and Lewy body dementia

Author(s): Kacper Mazurkiewicz, Adrianna Madej Medical University of Łódź, Poland Presenting author: Kacper Mazurkiewicz Tutor(s): Beata Sikorska, Paweł P. Liberski

Introduction

Alzheimer's disease (AD) and dementia with Lewy bodies (DLB) constitutes leading causes of dementia worldwide. Visuospatial cognition, perceptual functioning, as well as other important for creative work traits have been reported to be impaired in both types of dementias in a disease-specific way. Patients with DLB have all of visual perceptual functions affected and in AD predominant change is spatial. However, best to our knowledge, there were no prior reports of such changes in cases with mixed pathology.

Purpose

The study aims to identify the influence of Lewy body dementia with AD co-pathology on patient's visual art production. To this end we examined artistic works of a patient with autopsy confirmed limbic type of Lewy body pathology and AD created at different stages of the disease.

Material and Methods

We examined a collection of artistic works of the patient with neuropathologically confirmed Alzheimer disease and Lewy body dementia. The patient was a female professional artist with a higher artistic education Following qualities of works: aesthetics, composition, evocative impact, novelty, representation-technique, technique, bizarreness, facial features were assessed at three different stages of the disease. Assessment was performed by three evaluators, of whom one was with a higher artistic education. Additionally, the brain slides were reexamined to check for pathology in brain regions responsible for functions essential for creative work. Immunohistochemistry was performed in regions of interest with antibodies against phTau, ph-alpha-synuclein, amyloid-beta, TDP-43, GFAP, p62.

Results

We observed changes in patient's artwork in all of evaluated qualities except for composition, bizarreness and novelty during the progress of the disease. Alzheimer type pathology was consistent with Braak stage 6 and alpha-synuclein pathology matched limbic type of DLB according to McKeith. Apart from the hippocampus and the amygdala abundant tau deposits were present in the occipital cortex. Alpha-synuclein pathology was most severe in the amygdala and the hippocampus. Conclusions We observed influence of changes in motor ability and visuospatial perception on visual art production throughout the course of the disease. Moreover, we found that brain regions essential for art perception and creative work were affected by the pathological process. Damaged occipitoparietal pathway and hippocampal formation resulting in flawed spatial episodic memory may be associated with observed changes in the artwork.

Association between Alexithymia and features of Socio-psychological adaptation in mens with different forms of Substance Addictions

Author(s): Anastasiia Shkodina, Iryna Demianenko Pavel Marchenko, Michael Olamide Ajala Ukrainian Medical Stomatological Academy, Ukraine Presenting author: Anastasiia Shkodina Tutor(s): Andrii Skrypnikov, Dmytro Boiko

Introduction. Alexithymia is a disorder of cognitive and emotional empathy that manifests itself in the inability to describe, identify and convey emotional state, relate it to bodily sensations, and project to the external environment. Difficulties in identifying feelings in patients do not allow them to objectively assess the condition of the addicts and, as a result, cause a breach of the therapeutic alliance with the physician. However, the effect of alexithymia on the quality of social adaptation of addicts remains uncertain, which may account for the lack of effectiveness of rehabilitation measures.

The aim of the study was to study the level of alexithymia and social adaptation in patients with different forms of chemical addiction.

Materials and methods. The research included 40 men (26-48 years old) who were treated at the detoxication therapy stage in departments of the Poltava Regional Narcological Dispensary, which were divided into two groups. The first group consisted of 27 patients with drug addiction, and the second group include 13 with alcohol one. The Toronto scale of alexithymia (TAS-20R) was used for determination of the level of alexithymia. The socio-psychological adaptation was assessed by the R. Diamond and K. Rogers questionnaire. Normality of distribution was analyzed by Shapiro-Wilk test. Data analysis was performed using IBM SPSS Statistics 23.0 with descriptive statistics methods and Spearman 's rank test.

Results. Overall level of alexithymia (Al) in group 1 was 57.63 ± 14.12 and in group 2 - 60.42 ± 11.39 . It had not significant difference (p = 0.687), but this feature was on elevated level. "External orientated thinking" (EOT) in group 1 was 25.0 (20.0-26.0) and in group 2 - 26.5 (23.0-31.5), it was significant higher in group 2 (p = 0.023). The index of "Acceptance of others" was elevated in both groups, but it was higher in group 2 by 13.7% (p = 0.041). The index of "Emotional comfort" (EC) was higher than normal level in group 2, and less than one in group 1. This features in group 2 significance less compared with group 1 by 12.7% (p = 0.026). Indices of "Self-perception" (S), "Adaptation" (A) and "Internality" (I) was higher than normal level and ones of "The pursuit of dominance" was normal in both groups. In group 1 we found direct moderate correlation between EOT and EC (r = 0.382, p = 0.048), Al and EC (r = 0.410, p = 0.003), Al and I (r = 0.556, p = 0.031). In group 2 "Difficult with describing feelings" has direct moderate correlation with A (r = 0.615, p = 0.023) and strong with S (r = 0.732, p = 0.007) and I (r = 0.709, p = 0.011).

Conclusion.

The study demonstrates differences in the typology of disorders of social adaptation in patients with different forms of chemical dependence. The associations in group 2 make it possible to assume that these patients are characterized by an anosognostic type of perception of their disorder, as a result of which it is easier for them to achieve internal comfort.

Knowledge and opinions about mental disorders - a comparison of students of psychology and medical universities.

Author(s): Remigiusz Chrostek, Magdalena Towarek Marta Zmroczek, Anna Jakubowska Wrocław Medical University, Poland Presenting author: Magdalena Towarek Tutor(s): Lilianna Styka, Mateusz Paplicki

INTRODUCTION: How does the faculty of studies affect opinions about mental disorders? Do future psychologist and workers of healthcare sector know enough about them? Do they repeat stigmatizing stereotypes? AIM: The aim of this study was a comparison of knowledge and opinions about mental disorders of 3 groups: students of psychology, medical faculty and other faculties.

MATERIAL AND METHODS: The study group consisted of 505 students of psychology, medical faculty and other faculties of medical university (for example: dentistry, nursing, pharmacy). An anonymous questionnaire distributed via the Internet was used. The questionnaire contained a knowledge test about mental disorders and a few statements about them (responders determined how much they agree/disagree with them). The responders were also asked if they had ever consulted a psychologist or psychiatrist and if they had ever taken psychotropic drugs.

RESULTS: Average test result of the students of psychology was 25,58%, of medical faculty - 25,82% and of the other faculties of medical university - 19,44%. The students of last years achieved definitely higher test results. 6,51% of students of psychology, 6,04% of medical faculty and 11,11% of the other faculties agreed with the statement "Mostly weak minded people suffer from depression.". Accordingly, 17,67%, 30,77% i 38,89% of students agreed with this sentence - "people with personality disorders are dangerous to others". 10,24% of students of psychology, 20,33% of medical faculty and 19,44% of other faculties stated that if they had symptoms of a mental disorder they would delay a visit to a specialist because of fear of being judged by others. Accordingly, 31,16%, 60,99% i 62,04% of students have never consulted a psychologist and 59,53%, 83,52%, 81,48% of students have never consulted a psychologist and 59,53%, 83,52%,

CONCLUSIONS: The psychology and medical faculty students have performed slightly better than students of other faculties in the knowledge test. The students of last years have achieved much higher results. The faculty of studies does have an influence on stereotypical beliefs about mental disorders.

Public Health



Coordinators: Magdalena Papież, Aneta Basiak,

Jury:

dr hab. n. med. Iwona Paradowska-Stankiewicz, dr hab. n. med. Joanna Jurewicz, dr n. o zdrowiu Monika Burzyńska, prof. dr hab. n. med. Wojcech Drygas,

Possibility of HAI transmission by stethoscopes of students attending an anesthesiology classes in Intensive Care Unit

Author(s): Krzysztof Sacha, Paweł Harbut Amadeusz Hajduk, Kuba Orszulak Medical University of Silesia in Katowice, Poland Presenting author: Krzysztof Sacha Tutor(s): Gayane Martirosian

Background. Hospital acquired infections - HAI are today in 2020 one of the most necessary field to make an improvement. According to ECDC 1 in 18 patients in European hospitals has HAI, everyday about 80.000 patients acquire nosocomial infections. It has been reported that cases of nosocomial infections in Intensive Care Unit - ICU are from 2 to 5 times higher than in other wards. Due to the presence of multi-drug resistant bacteria and also long hospitalization time ICU patients are vulnerable to acquire HAI infection. Many environmental factors as well as hospital staff are specifically mentioned as an important factors for transmission of HAI in hospitals.

Hypothesis: Stethoscopes of the students having clinical classes on ICU can be potential vectors of transmission of HAI etiologic agents, especially surfaces of the stethoscope diaphragm, if un-effectively disinfected, may contain multi-drug-resistant bacteria.

The aim of this study was to evaluate the presence of multi-drug resistant bacterial strains on stethoscopes of medical students having clinical classes of Anesthesiology in ICU.

Materials and Methods . Twenty four samples taken from diaphragm of the stethoscopes were obtained using sterile swabs and transport medium. Subsequently all samples were cultured on Columbia, Chapman and MacConkey agars for 24 hours in 37 textdegreeC. From each medium colonies were re-isolated using the same media and BHI, enriched with 1% horse serum at 37 textdegreeC for 24h. Isolated strains were identified in automatic system - VITEK 2 Compact (bioMérieux, Marcy L'Etoile, France) by using appropriate cards. Drug resistance mechanisms were performed according to EUCAST 2019.

Results: Out of 24 cultured samples, from 5 stethoscopes' samples, strains of aerobic or facultative microorganisms were not isolated.

From 3 samples taken from diaphragm of stethoscopes strains of Staphylococcus aureus were isolated. From remaining 16 samples representatives of skin microflora were isolated, maily Coagulase-negative staphylococci. However 2 of them demonstrated MLS B mechanism of resistance (resistance to macrolide-lincosamide-streptogramin B).

Conclusion: Stethoscopes used by students can be considered as an vectors of HAI causative agents, especially for S. aureus. It is also very important to take into account transmission of Coagulase-negative staphylococci with MLS B mechanism of resistance by stethoscopes, especially among immunosuppressive patients.

Attractiveness of orthopedics and traumatology among polish medical students

Author(s): Jakub Stanek, Marcin Mostowy Katarzyna Kwas Uniwersytet Medyczny w Łodzi, Poland Presenting author: Jakub Stanek Tutor(s): Jęrzej Lesman

Introduction

At the beginning of academy, most of medical students do not know which specialization they will choose. Throughout their studies, they can try to assign themselves the right one. Up to date some studies assessed factors predisposing for the choice of specialization. However, none of them focused on the attractiveness of a particular specialization. In this study, we wanted to check what predisposes to take up the orthopedics and traumatology and why is it attractive to students.

Purpose

The purpose of this study was to determine the relationship between motivating factors and the choice of orthopedics and traumatology. Analyzed was the impact of personal experiences and personality traits on the choice of this specialization.

Material and methods

A survey was conducted among medical students of polish universities, aiming at students of every year, as well as trainees. We collected basic information about students such as gender, marital status, age, size of hometown and medical professionalists in family. The questions included general characteristics of the specialization, such as sacrifices related to on-call time or self-perceived manual proficiency and strength. It was also examined whether people interested in sport or considering it as an important aspect of their lives are more determined to undertake orthopedics and traumatology. Respondents determined their willingness to take up orthopedics on a 10-point scale with 0 meaning no interest at all and 10 being sure to take up orthopedics.

Results

495 respondents were included (311 women and 184 men), with an average age of 21.96 years (SD = 2.11, min 18 years and max 29 years). Interest in orthopedics and traumatology is greater among men (4.43 on average, SD = 3.06) than women (2.71, SD = 2.17), p <0.000001. Older participants were less willing to take up specialization in orthopedics (r = -0.195, p = 0.00002). As to marital status, singles were more willing to take up this specialization (3.48; SD = 2.68) than engaged (1.84; SD = 1.95), p = 0.000054. Self-perceived attractiveness of orthopedics is positively associated with willingness to take up it (r = 0.598, p <0.000001). There is a weak positive correlation between self-perceived manual proficiency and willingness to take up orthopedics (= 0.148, p = 0.0013). People for whom sport is important, are more interested in orthopedics, (r = 0.213, p = 0.000003). Wages on the labor market and physical strength are not related to the choice of this medicine discipline, (r = -0.026, p = 0.57; r = 0.003, p = 0.95, accordingly).

Conclusions

The following factors were shown to be associated with higher willingness to take up orthopedics as specialization: male sex, younger age, single marital status, self-perceived attractiveness of orthopedics, self-perceived manual proficiency and interest in sport.

Evaluate the association of psychosocial stress and other factors like family and social support, sleep abnormalities, physical activity and addiction with hypertension in adults >30 years of age.

Author(s): Sneha Yadav, Shreyak Garg
Dr. Abhishek Raut
Mahatma Gandhi Institute Of Medical Sciences, Sewagram, India
Presenting author: Sneha Yadav
Tutor(s): Abhishek Raut

INTRODUCTION:

Hypertension has multi-factorial causation. Stress has chronically been cited as an imperative cause of hypertension among other risk factors such as sleep abnormalities. The interrelation between psychosocial stress and hypertension has been significant though the exact association remains debatable.

OBJECTIVES:

To evaluate the association of psychosocial stress and other factors like family and social support, sleep abnormalities, physical activity and addiction with hypertension in adults >30 years of age.

METHODS: Community-based case-control study with 90 incident hypertensive cases aged >30 with 90 age and sex-matched controls selected from rural populations in central India. Study participants were examined and interviewed regarding their socio-demographic characteristics, psychosocial stress(ICMR psychosocial stress scale), family and social support(ICMR scale), quality of sleep(Pittsburgh sleep quality index), history of addiction(WHO ASSIST) and physical activity(GPAQ). Data collection was done using KOBO and multivariate analysis using binomial logistic regression was done using SPSS version 21.

RESULTS: Psychosocial stress had a highly significant association with hypertension (AOR = 8.198, 95% C.I. 2.85 - 23.52). Participants having compromised family and social support (AOR=3.0, 95% C.I. 1.41 - 6.34), Poor quality of sleep (AOR=4.429, 95% C.I. 1.78 - 10.96) and Low physical activity (AOR=2.92, 95% C.I. 1.22 - 6.98) had significantly higher odds of developing hypertension. Other parameters like sedentary occupation, lower socioeconomic status, body mass index (BMI) \geq 25 kg/m 2 were found to have an association with hypertension. Tobacco or alcohol addiction did not show any association.

DISCUSSION: This study highlights a significant number of undiagnosed or untreated cases of psychosocial distress in the community. Thus calling for immediate attention towards psychosocial stress as an important etiological determinant in the causation of hypertension. This indicates the need for interventions to prevent and manage psychosocial stress through systematic screening and awareness program informed by locally generated evidence. A comprehensive public healthcare initiative that would promote family care, strengthen social support coupled with effective risk communication would go a long way in offering primary counselling to prevent the development of hypertension.

Prevalence of acute viral hepatitis in Albania and its awareness as an important target of public health professionals

Author(s): Irini Kasolli, Ervin Marku Ledi Necaj, Griselda Mucollari Medical University of Tirana, Albania Presenting author: Irini Kasolli Tutor(s): Ervin Marku

Introduction: Hepatitis is a global public health problem and a leading cause of chronic liver disease. Public awareness for the types of hepatitis, risk factors and tests available for diagnosis and follow-up, remains an important objective of public health professionals worldwide.

Aim: The purpose was to evaluate prevalence of acute viral hepatitis in Albania, the most common causes, the associated risk factors and to show its importance in public health. Methods: In this retrospective study we tested patients for different types of acute viral hepatitis during a 30-day period. |The data were collected from the non-public laboratory Intermedica/2 in Tirana, Albania. We examined 420 patients in total coming from all regions of Albania and 33 patients came out positive for antigens and / or viral antibodies (by ELISA method) for hepatitis A, B, C. There was no presence of hepatitis D and E. Results: Statistical data showed that from 420 patients only 33 patients (7.9%) were diagnosed with hepatitis. It was found that prevalence of viral hepatitis is greater in males (67%) compared to women (33%). From 11.7% of males tested, 6.9% resulted with acute hepatitis B, 3.7% with chronic hepatitis B and 1.1% with acute hepatitis C, whereas in women from 4.7% tested, 0.9% resulted with acute hepatitis A, 3.4% with acute hepatitis B and 0.4% with chronic hepatitis B. The most affected age group was 31-40 years old (3.1% of tested patients) or 40% of infected patients. Out of the sample tested, 69% lived in the city of which 6.2% were positive for hepatitis, while the rest living in the rural areas accounted for 11.6% hepatitis infections prevalence. It was observed that the majority of the population (59%) were not alcohool consumers, out of which only 5.7% were found to have hepatitis (3.7% male and 2% female) unlike (41%) that were alcohol consumers. In this group, 11% were infected (10.5% males and 0.5% females). Hepatitis B is by far the predominant type in our sample population with a prevalence rate of 6.9%. Regarding hepatitis A and C, we see a 0.5% prevalance rate in the overall sample population. We also noted that 76% of the cases were acute and only 24% of them had chronic hepatitis. We found no positive cases of hepatitis D and E.

Referring to the laboratory data an increase in hepatic transaminases (AST and ALT) was noted in acute hepatitis A,B,C, but more specifically the levels of ALT were increased up to 7-fold in the case of hepatitis C. With regard to GGT and ALP enzymes, GGT was relatively high, double the rate while ALP was slightly increased. Conclusions: This study shows the high prevalence of hepatitis B in the albanian population consistent with previous similar studies. It speaks about the importance of raising awareness and sensibility in public health. We urge individuals with high risk factors such as alcohol consumers to get tested. In this aspect the role of early diagnosis is of crucial importance for a better follow-up.

Assessment of the state of knowledge regarding occupational exposure and post-exposure prophylaxis and a study of exposure to potentially infectious materials among students of selected medical faculties.

Author(s): Katarzyna Kuźniar, Sylwia Kocór Antonina Oboz-Adaś, Kinga Ziojła University of Rzeszów, Poland Presenting author: Katarzyna Kuźniar Tutor(s): Robert Pleśniak

Introduction: Occupational exposure is a contact of damaged skin or mucosa with potentially infectious material that occurs during the course of professional work. Medical students belong to the group of increased risk of such event due to the frequent performance of medical procedures. Prophylaxis after exposure is very important issue regarding the safety of exposed people. According to official data, occupational exposure among Polish healthcare workers fluctuates around 5%, while this value is highly underestimated. There are no available statistics on exposure among medical students.

Aim of the study: Assessment of the state of knowledge about occupational exposure and post-exposure prophylaxis and study of the frequency of exposure to potentially infectious material among students of selected medical faculties in Poland.

Material and methods: The survey method with a proprietary questionnaire in paper and electronic form was used. It consisted of 28 questions, 7 of them examined the state of knowledge, while the remaining ones related to the respondents' own experience regarding occupational exposure. The study was conducted from February to March 2020. The average age of the respondents was 22,1 years with a ratio of women to men 5:1. Answers were collected from a total of 750 respondents from the fields of: medicine (272), dentistry (23), nursing (196), emergency medicine (94) and midwifery (165), from several dozen universities in Poland.

Results: Only 68% of respondents underwent training in post-exposure procedures, while 87.7% of them declared taking part in activities associated with possible occupational exposure. On average, students rated their knowledge at 3 points on a scale from 1 to 5. Only 34.5% respondents correctly indicated microorganisms causing diseases related to occupational exposure. In turn, 43.6% correctly indicated events requiring post-exposure prophylaxis, 30,1% marked correct proceedings after exposure and only 9,3% pointed out properly potentially infectious materials. The study reported 84 (11.2%) occupational exposures among medical students; most of them took place during intravenous injections. Moreover, 10,4% students reported that they had probably experienced occupational exposure at least once but did not report this event. Post-exposure prophylaxis was implemented for 66,7% of exposed students. The most common reason for not reporting exposure was fear of unpleasant comments from the supervisor and recognition as incompetent.

Conclusions: Presented data showed that significant percentage of students has never participated in occupational exposure training, although the majority were potentially exposed to infectious material. Students' knowledge of potentially infectious materials and incidents requiring prevention is poor. Occupational exposure was experienced by a surprisingly large number of students. Students are afraid to report the incidents due to fear of negative supervisor reaction.

Lyme Borreliosis: 2014-2015 Overview of Clinical Characteristics and Treatment Tactics

Author(s): Justina Kaklauskaitė Vilnius University, Lithuania Presenting author: Justina Kaklauskaitė Tutor(s): Daiva Radzisauskiene

INTRODUCTION

Approximately 2000-3000 people contaminate tick-borne diseases in Lithuania every year. Lyme disease is caused by the bacterium Borrelia burgdorferi. Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migrans. If left untreated, the infection can spread to other structures such as joints, the heart, and the nervous system. Most cases of Lyme disease can be treated successfully with a few weeks of antibiotics.

AIM OF THE STUDY/PURPOSE

This study aims to evaluate clinical signs of Lyme disease, their frequency and treatment tactics at the Vilnius University Hospital Santaros Klinikos (VUHSK) Center of Infectious Diseases during the 2014-2015 period for outpatient patients.

MATERIAL AND METHODS

A retrospective analysis of 2014-2015 data of patients with a confirmed outpatient diagnosis of Lyme borreliosis at the VUHSK Center of Infectious Diseases, was performed. Demographic data such as age and sex, also data describing clinical manifestation were collected. Microsoft Excel and SPSS software were used for systematic analysis.

RESULTS

The study included 534 patients (360 (67.42%) women and 174 (32.58%) men) with Lyme borreliosis. The median age of the patients studied was 53 years. Ticks were observed in 59.55% of patients. Clinical manifestations of Lyme borreliosis were divided into 4 groups, which were divided as following: erythema migrans occurred in 94.57% of subjects, Lyme arthritis 3.75%, neuroborreliosis 1.69%, Lyme carditis (atrioventricular block) 0.19%. The most common treatment choice was doxycycline (83.15%), amoxicillin (5.62%) and azithromycin (1.87%), and other drugs (cefuroxime, ceftriaxone) were administered to 9.36% of patients; 4.87% of patients were treated with several different medications. The median duration of treatment was 20 days.

CONCLUSIONS

Lithuania is an endemic region for Lyme borreliosis. It has high morbidity and is a health system burden. The most common clinical manifestation of Lyme borreliosis was erythema migrans. The first-line antibacterial drug for the treatment of borreliosis was doxycycline with a median duration of treatment of 20 days. This study is continued collecting more detailed data.

Is winter smog a real hazard in medical students' opinion? Validation of self-administered questionnaire.

Author(s): Aleksandra Gładyś, Katarzyna Jarzębska Aneta Kamińska Medical University of Silesia, Poland Presenting author: Aneta Kamińska Tutor(s): Małgorzata Kowalska, Krzysztof Kocot

Introduction: Winter smog remains a serious hazard for the susceptible population living in high-density societies. Among the most frequently reported health problems are: bronchitis, pneumonia, asthma exacerbation, and also cardiovascular problems. The lack of significant improvement in air quality suggests that future medical doctors have to provide medical care to patients with the mentioned above diseases and health problems.

The aim: The aim of the presented study was validation of the original tool used in the cross-sectional study to the recognization of the medical students 'knowledge about winter smog hazard and its health consequences.

Methods&Materials: The original self-administered questionnaire contains questions about risk perception of winter smog and its determinants related to the place of residence, the current health status of medical students, their physical activity, as well as demographic factors. The validation was conducted on a sample of 39 students of the Medical University of Silesia. Each subject obtained an individual identification number and the questionnaire was distributed twice in 7 days period (test and re-test). The reliability of each question was assessed by Cohen's kappa statistic, the internal consistency was measured using Cronbach's alpha test, both are available in Statistica 13.3 and GraphPad software.

Results: The obtained results of Cohen's kappa statistic's values were very high for most questions (average value was 0.72) and confirmed good or very good reliability of the own questionnaire. Also, the percentage of agreement was high for most answers (with an average value of 89.3%). Moreover, the results of Cronbach's alpha test confirmed high consistency in risk perception (0.81) and medical health status (0.79), but low for living conditions questions (0.21).

Conclusions: We have to conclude, that our own, original self-administered questionnaire has been well-designed and is a reliable tool for medical students 'knowledge assessment of winter smog hazard.

The quality of sex life among patients before and after lung transplantation - a single-center study.

Author(s): Klaudia Nowak, Kaja Pelar Medical University of Silesia, Poland Presenting author: Klaudia Nowak Tutor(s): Fryderyk Zawadzki, Marta Wajda-Pokrontka Marek Ochman

Introduction: Lung transplantation (LTx) due to end-stage lung disease is a procedure that prolongs patients' life and increases the quality of life (QoL). An important aspect, that can influence QoL, is sexual activity. This aspect is yet to be discussed extensively.

Aim of the study: The aim of the study is to compare patients' quality of sex life at the qualification process to patients' who underwent LTx.

Material and methods: Study group consisted of 84 patients (21 women before LTx and 11 after LTx, 36 men before LTx and 16 after LTx), who were admitted to Silesian Center for Heart Diseases (SCCS) for qualification for LTx and those who underwent LTx.

To determine the patients' quality of sex life, the following questionnaires were used: The Changes in Sexual Functioning Questionnaire (CSFQ), WHO Quality of Life-BREF (WHOQOL-BREF). Pulmonary function of patients was examined during spirometry and 6 minute walk test (6MWT). Additionally, we used an authorial demographic questionnaire.

Results: Qualified patients reached an average of 339,6m in 6MWT and FEV1 30,5% in spirometry. In CSFQ questionnaire patients qualified to LTx got an average of 43,5 points.

Patients after lung transplantation obtained much better results in 6MWT and spirometry (an average of 520,7m and FEV1 64,8%). Also, in CSFQ questionnaire patients after LTx reached better results than comparable group (mean 47,2 points). The results for double lung transplantation (DLT) and single lung transplantation (SLT) were similar (47,5 points and 46,8 points).

According to CSFQ men after LTx are more satisfied with sex life than women (51,1 points vs 41,6points). Patients after lung transplantation obtained similar results - compared to patients who were qualified for Ltx - in the WHOQOL-BREF survey: in the Somatic, Psychological, Social and Environment domain.

Conclusions: Patients after Ltx have better pulmonary function and quality of sex life than patients at qualification process. Despite the small study group, preliminary results encourage us to conduct research on a larger study group.

Knowledge, opinions and attitudes of Polish women towards breast milk banks

Author(s): Julia Smyk, Zuzanna Danielecka
Joanna Pergoł
Medical University of Warsaw, Poland
Presenting author: Julia Smyk
Tutor(s): Joanna Kacperczyk-Bartnik, Agnieszka Dobrowolska-Redo
Ewa Romejko-Wolniewicz

1. Introduction:

Breast milk banks are services involved in the collection, storage, screening and distribution of breast milk. They provide natural nutrition to children who, for medical or random reasons, cannot be fed their own mother 's milk. According to WHO, breast milk from a professional breast milk bank is the second line nourishment for newborns and infants after mother 's milk.

2. Aim of the study:

The study aimed to assess the knowledge, opinions, and attitudes of Polish women towards breast milk banks.

3. Material and methods:

A cross-sectional survey was conducted to obtain 871 female responses. The author 's questionnaire was used and made available on Internet forums. It was also distributed in paper form to patients of the obstetrics and gynecology hospital with the third degree of reference, as well as in workplaces between December 2019 and February 2020.

4. Results:

Of the 871 respondents, 69.4% have ever heard of breast milk banks. 68.6% of them learned about breast milk banks from the Internet, and 4% from a doctor. 3.3% of respondents who could donate milk to the bank decided to donate. 53% of Polish women, who did not use the opportunity to donate milk, indicated the lack of knowledge about this procedure. 2.2% of mothers have ever taken milk from the breast milk bank. Among women who do not have children yet, 53.8% consider using a breast milk bank if the need arises. 99% of women who have heard of breast milk banks believe that knowledge about them is not sufficiently widespread in Poland. 57.2% of all respondents are willing to broaden their knowledge on this issue. 83% of them declare a willingness to search for information on the Internet.

5. Conclusions:

Awareness of the existence of breast milk banks in the population of Polish women is high, but their knowledge about them is low and cursory. We acknowledge a great need for education of Polish women on breast milk banks, as it could significantly increase the percentage of donations. The main source of obtaining information for women is the Internet, so it is worth using this information channel for education. It is also important to increase the role of doctors in making patients aware of the functioning of breast milk banks and donations.

Prevalence of symptoms of skin, digestive tract and musculoskeletal system among patients of psychotherapy station

Author(s): Kotryna Liberyte, Dovilė Meidutė Vilnius University, Lithuania Presenting author: Kotryna Liberyte Tutor(s): Inga Kisieliene, Ingrida Kazlauskaite

Introduction Prevalence of the psychosomatic disorders is increasing; however, patients in the primary-care unit usually undergo only somatic diagnostics. This research is focused on finding the prevalence of physical symptoms among the patients who have recently started psychotherapy treatment due to mental health issues.

Aim This research is focused on finding the prevalence of physical symptoms among the patients who have recently started psychotherapy treatment due to mental health issues.

Material and methods 70 patients and 79 people of the control group were interviewed. The questionnaire of 26 questions about symptoms of skin, digestive tract, musculoskeletal system and dermatology life quality index (DLQI) questionnaire were used. Statistical analysis was performed using SPSS 23.0. Significance level - p < 0.05.

Results 31 (44,3%) men and 39 (55,7%) women of the patient group (average age $31,46\pm9,5$) and 21 (26,6%) men and 58 (73,4%) women of the control group (average age $30,3\pm12,2$) have conducted the questionnaire. During the last 12 months at least one time per week significantly higher number of people in the patient group than people in control experienced nausea; painful swallowing; bitter taste; burning sensation behind the chest; joint pain; itching of the skin; numb feeling in limbs and back, neck pain; diarrhea (p<0,05). During the last 12 months significantly higher number of people in the patient group than in control group were constantly experiencing tension in back/limbs; feeling of bloating; stomach pain; changed shape of nails; hair loss; skin rashes; acne (p<0,05). DLQI score above 6 points reached 16% of patients and 2% of control group.

Conclusions In the group of patients with mental health issues physical symptoms were expressed significantly more often than in control group. physical symptoms have strong correlation with mental health. Therefore, special attention to the psychological issues should be paid while diagnosing patients in primary-care unit.

Health behaviors of primary school students as perceived by them and their parents

Author(s): Maja Nowicka, Krzysztof Edyko Wiktoria Pietras, Agnieszka Dzido Medical University of Lodz, Poland Presenting author: Maja Nowicka Tutor(s): Michał S. Karbownik

INTRODUCTION

Children's dietary and lifestyle behaviors have both immediate and delayed consequences on their health. It is crucial to introduce healthy habits in their formative years. Parental guidance and supervision are necessary, alongside evidence-based education at school. However, to act accordingly parents should be aware of their offsprings' behavior in and out of home.

AIM OF THE STUDY To gain insight into the health behaviors of grade 4-8 primary school students as reported by them and their legal guardians. Furthermore, to identify problem areas with the greatest discrepancies in children's and parents' reports, and pinpoint issues of which parents are unaware.

MATERIAL AND METHODS

We distributed an anonymous, self-designed questionnaire among grade 4 to 8 primary school students and their parents. The questions regarded demographics, dietary habits (Starting The Conversation, STC), active and passive exposure to cigarettes and alcohol, time spent on physical activity, electronic devices and sleep, as well as a general evaluation of their lifestyle.

RESULTS We analyzed data from 363 children (175K, 171M) aged 9-15 and 296 parents.

Children's gender and age distribution matched that reported by the parents, thus permitting data comparison. Children's diet was rated higher by parents; in comparison, students declared eating fewer vegetables (p<.001), but more fruit (p<.001), sweet drinks (p<.001) and savory snacks (p<.001). They ate homemade lunch less frequently than parents assumed (p<.001), while they used vending machines more (p<.001). Children more often reported having a smoking household member (p=.008, 41.2% vs 30.9% respectively); in children's perception said members more often smoked at home (p=.036, 23.1% vs 37.1%), in the car (p=.010, 7.7% vs 20.3%) or in their presence (p=.014, 29.7% vs 46.2%). Parents underestimated how many of their children ever tried a cigarette (p=.029; 4.4% vs 8.8%) or an e-cigarette (p<.001; 4.8% vs 16.2%). Children more often reported consuming alcohol with (p<.001; 8.8% vs 40.3%) or without (p<.001; 3.1% vs 13.9%) parents' permission; their declared age of alcohol initiation was lower (p<.001; median 11 vs 13 years). Children reported doing significantly more sport (p<.001), they also spent more time on electronic devices (p<.001) and slept fewer hours per day (p=.042), contrary to the parents' belief. Children's median general evaluation of their lifestyle on a scale of 1 to 100 was lower than the parents' (p=.021 60 vs 65 in 1-100 scale).

CONCLUSION There are notable differences between children 's behavior and parents' awareness of it, especially in regard to illegal substances. Parents should be recommended to monitor the amount of time children spend on electronic devices and sleeping. Furthermore, they ought to pay attention to the quality and quantity of their children's meals.

The influence of education on the knowledge of cardiovascular risk factors and symptoms of stroke and myocardial infarction among employees from Małopolska

Author(s): Izabella Owsianka, Wiktoria Kowalska Barbara Smyczek, Szymon Warwas Jagiellonian University Medical College in Cracow, Poland Presenting author: Izabella Owsianka Tutor(s): Martyna Sikorska, Grzegorz Kopeć Piotr Podolec

Introduction:

Cardiovascular diseases (CVD) are the main cause of mortality and premature deaths in the Polish population therefore appropriate awareness of CVD risk factors and CVD symptoms may be crucial to prevent an important part of premature deaths.

Aim of the study:

To assess the knowledge of CVD risk factors and symptoms of stroke and myocardial infarction among employees from the Małopolska region before and after educational sessions.

Material and methods:

In the study, we enrolled workers from 12 randomly chosen workplaces from Małopolska voivodeship. Standardized questionnaire was used to verify their knowledge of CVD risk factors, symptoms of myocardial infarction (MI) and stroke, and also the emergency phone number before and after a relevant educational session.

Results:

The study involved 400 employees (76.5% females). Educational session significantly improved the knowledge of all CVD risk factors - smoking: 35% vs 59.3%; improper diet: 34% vs 49%; stress: 33% vs 52.5%; low physical activity: 23.8% vs 37.5%; alcohol abuse: 23.8% vs 37.5%; excess weight/obesity: 22.5% vs 45.5%; arterial hypertension: 10.8% vs 26%; hypercholesterolaemia: 8.5% vs 22.3%; diabetes mellitus: 6.3% vs 29% (in all p < 0,001). After the course, almost all workers (95%) recognized chest pain as MI symptom as compared to 83.3% of employees before the course (p < 0.001). The awareness of stroke and other MI symptoms was also improved. The knowledge of emergency phone numbers increased over two times after education (22.3% before the course vs 63% after the course; p < 0.001).

Conclusion:

Our study confirms that education about CVD risk factors and symptoms increases its awareness among employees

Screening for fibromyalgia and its association with lifestyle factors in medical students

Author(s): Agastya Patel, Ahmed Al-saffar Manvi Sharma, Anna Masiak Medical University of Gdansk, Poland Presenting author: Agastya Patel Tutor(s): Anna Masiak

Introduction: Fibromyalgia (FM) is a chronic pain disorder, which has a complex, multifactorial etiology and pathophysiology. It affects about 3-6% of the general population. Medical students (MS) present a unique subset of our population with a different type of lifestyle as compared to non-medical population. They are exposed to elevated levels of stress and sleep irregularities, which in turn may diminish immune regulation. The prevalence of anxiety and depression is also found to be much higher in MS than in general population.

Aim of Study: The aim was to screen first and final (5 th -6 th) year MS for FM and assess the quality of their lifestyle. Further, to identify if there is any correlation between different aspects of lifestyle and fibromyalgia severity score (FSS).

Methods and Materials: The American College of Rheumatology (ACR) 2016 criteria was used for screening MS for FM. The lifestyle quality was measured using the FANTASTIC lifestyle checklist (FLC). Using these, an online survey of the MS was performed. Normality was assessed using Shapiro-Wilk's test. Statistical analysis of the acquired data was performed using Mann Whitney U test, chi-squared test and non-parametric spearman correlation. Significance was assumed if p-value was <0.05.

Results: 439 students (71% Females) from the first and final year

of medical studies at the Medical University of Gdansk responded to our survey. The lifestyle quality of females was significantly better than males (p=0.03), with 53.5% of females having "very good/excellent" scores on the FLC compared to 38.9% of males. 11.5% of the female students and 7.9% of the male students met the ACR 2016 criteria for FM. A significant negative correlation between the lifestyle score and FSS was found for both genders (females: r=-0.55, p=<0.0001; males: r=-0.61, p=<0.0001) when analyzed irrespective of the year of study. Moreover, the same correlation was noticed when first year and final year males and females were analyzed separately (Females - first year: r=-0.58, final year: r=-0.48; Males - first year: r=-0.59, final year: r=0.57; p-values for all four = <0.0001). Sleep and stress, insight, career and behavior were the four most negatively correlated aspects of lifestyle with FSS for females (irrespective of the year of study) and for final year males. For first year males, activity had a more negative correlation with FSS than career for first year males, with the remaining three aspects being the same.

Conclusion: Our screening suggests that the prevalence of FM may be considerably higher in MS as compared to general population (10.5% vs 3-6%). This may be due to differences in lifestyle factors such as sleep, stress, career aspiration and behavior of MS, which were found to be more negatively correlated with a poor FSS than other factors. Therefore, it is essential to educate MS about FM and identify at risk students for further investigation by a clinical rheumatologist.

The evaluation of medicine students' knowledge about pediatric basic life support (PBLS) - a survey study

Author(s): Gabriela Ręka, Piotr Machowiec Medical University of Lublin, Poland Presenting author: Gabriela Ręka Tutor(s): Konrad Szast

Introduction

The ability to provide first aid is one of the key skills that a future physician should acquire. Although sudden cardiac arrest is more common in adults than in children, mastering the pediatric algorithm is essential because asphyxia as a main cause of sudden cardiac arrest in children requires an emphasis on rescue breaths in algorithm.

Aim of the study

The aim of the study is to analyse the level of knowledge about pediatric basic life support among medicine students.

Material and methods

The research group consisted of 105 medicine students of Medical University of Lublin, from each year of studies. An original, anonymous, online questionnaire with general and metric questions and 20 closed questions checking knowledge based on the European Resuscitation Council Guidelines 2015 was used. Each respondent received 1 point for the correct answer. The survey was conducted at the beginning of second term of the 2019/2020 academic year. Statistical analysis and data management was performed with Statistica and MS Excel. P value ≤ 0.05 was considered as significant.

Results

Subjects between the age group 19-28 years participated in this study. The mean age of respondents is 22.5 ± 1.9 years, 73.3% females and 26.7% males took part. The average knowledge test result is 13.7. The best result is obtained by sixth year students, then fifth and third, later fourth, first and the faintest - second. Almost everyone knows that they should firstly open the airway and check for breathing of an unconscious child, slightly over 75% remember how many seconds should it takes. The hardest question refers to calling for ambulance while being alone in which the most popular answer was "immediately" instead of "after 1 minute of CPR". Results in questions about choking are better than on other issues. Half of the surveyed students do not remember the pediatric algorithm though the majority is aware that in the absence of this knowledge they could use scheme for adults. In questions about a chest compression technique, the number of correct answers is two thirds. The largest change in the level of knowledge occurs between the second and third years - the level of knowledge of third year students is statistically significantly higher than among second year students (P=0,024). Declaring skills by answering "definitely yes" to the question about readiness to conduct PBLS does not affect the high test result above 80%. Significantly more students who had a course at the university in the last six months achieve a score of at least 80% compared to those who had this course more than six months ago (P=0,002).

Conclusions

The general level of knowledge can be rated as medium. BLS courses are conducted at the university on the first and third year of studies which is reflected in the level of knowledge. Results of the study show that there is a need for refresher courses at least every 2 years as well as an emphasis on memorizing the pediatric algorithm.

AED in Wrocław - does employees of institutions that bought the AED know how to use them.

Author(s): Urszula Chrostek, Magdalena Towarek Anna Wiesner, Remigiusz Chrostek Wrocław Medical University, Poland Presenting author: Magdalena Towarek Tutor(s): Mateusz Paplicki, Lilianna Styka

Introduction: 75% of cases of sudden cardiac arrest (SCA) proceed with ventricular fibrillation (VF) or ventricular tachycardia (VT) without pulse which are treated with defibrillation. Element which enhances early defibrillation is presence of automated external defibrillator (AED) in public places.

The aim: Aim of our study was evaluating knowledge in AED procedure in staff members of institutions which own such equipment.

Material and methods: A group of 98 workers of 13 institutions in Wroclaw, which owned AED. Analysis conducted with the use of personal questionnaire. In case of respondents who did not know what AED is father questioning was ceased.

Results: Only 53% of employees knew what AED is and 28,6% could localize the device. 32,65% of respondents claimed to receive first aid training, including AED usage. From remaining group, who knew what AED is 86,53% could identify indication for using it and 73,08% could describe how to use it. 84,61% of those respondents admit that using AED is safe both for the victim and rescuer. 93,75% of workers who were trained in first aid could describe how to use the device in comparison to 40% of workers who did not receive such training but knew what AED is and did not know how to use it (p<0,05). We presented three medical cases were and ask respondents to choose one which needed AED use. Average score was 1,7/3. Two respondents used AED before in sudden cardiac arrest.

Conclusion: It is alarming that almost half of employees did not know how use AED. Ability to indicate localization of the was also insufficient. Considering the importance and effectiveness of first aid trainings, employers should participate in first aid courses.

What do people from non-medical field think about vaccination

Author(s): Filip Kamiński, Marta Miejska Paula Oliwa, Martyna Pałys University of Rzeszów, Poland Presenting author: Filip Kamiński Tutor(s): Hanna Czajka

Introduction: Infectious diseases always were important cause of mortality among children and adults. Vaccinations are used to prevent infectious diseases. Due to misinformation associated with vaccinations and a growing trend to avoid vaccinations more people develop these diseases and life-threatening complications associated with them.

Aim of study: Finding out what is the level of knowledge about vaccinations and their side effects among people from non-medical field, especially teachers. Investigating the correlation between education, having children and opinion on vaccinations and their side effects.

Materials and methods: Survey was carried out on a group of 527 respondents - men and women not employed in the medical field. All respondents were above 18 years of age. The research tool was a questionnaire in paper and online. Comparisons were made with Pearson's Chi2 test.

Results: Almost 62% of respondents were in favor of vaccinations, 32% had neither positive or negative opinion. Almost 55% of respondents found that sentence "vaccinations cause autism" is not true, 36% answered that they don't know whether this sentence is true or false. Almost 60% of respondents said that vaccinations cannot cause diseases. However 40% respondents stated that vaccinations can cause: allergies (9,6%), neurological disorders (9,4%), decreased immunity (8,6%), autism (8%). When asked if "heavy metals contained in vaccinations could cumulate in human body and cause serious side effects" 54% respondents did not choose any answer. Only 35% respondents knew which disease was eradicated due to usage of widespread vaccinations, and among them 64% had higher level of education. 20% of all respondents were teachers. 62% of people of this profession were in favor of vaccines, 33% did not know whether vaccinations can cause autism. 45% of parents think that vaccinations could be the cause of autism.

Conclusions: A survey has shown that society's level of knowledge about vaccinations is very low. We found out that the level of education is positively correlated with the level of knowledge about vaccinations. It is also noticeable that age is inversely correlated with awareness about vaccinations. Surprisingly, the teachers are not characterized by better knowledge about vaccinations.

The public bike-renting system in Łódź as a key to reducing health inequalities - the overview of users for demographics and socioeconomics status

Author(s): Beata Filipek, Anna Moniuszko Jakub Jania Medical University of Lodz, Poland Presenting author: Beata Filipek Tutor(s): Joanna Ruszkowska

Introduction

Physical activity has a huge impact on human health. WHO recommends for adults at least 150 minutes of moderate-intensity aerobic physical activity or at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week. These include in particular physical exercise (sport) and effort associated with daily activities (walking, cycling). The socioeconomics status and demographics factors underlie the health behaviour. There are numerous barriers to residents of Lodz participating in physical activity (high user fees, time constraints). The low socioeconomic status and insufficient health awareness are main factors of inequalities in physical activity in the city. A public bike-renting system in Lodz, started in 2016, provides inexpensive access to cycling as one form of the physical activity.

Aim of the study/purporse

The aim of this study was to examine demographics and socioeconomic status among the users of the public bike-renting system in Łódź.

Material and methods

The study was based on a questionnaire consisted of 42 questions regarding demographics, socioeconomics status, type and frequency of physical activity, health condition and use of the public bike-renting system in Łódź. An anonymous online survey was distributed through social media. The survey was conducted in 2020 and involved 226 inhabitants of Łódź.

Results

The data was received from 226 respondents; 97 males, 129 females. Among all respondents 148 people (65,49%) were using the public bike-renting system in Łódź. Most people started cycling from spring 2017. Typically, the user of the public bike-renting system in Łódź had the Master's Degree (40%), performed intellectual work (67%) and was single (42%). Predominantly, the users of bikes were young (mode =26 years old). Considering the income, excluding refusals to answer, the most common value range was 3301-4200 zł.

Conclusions

Insufficient physical activity is an important issue of public health in Poland. Cycling is one of the most common types of physical activities thus a public bike-renting system in Łódź may influence the health of inhabitants. The knowledge about demographics and socioeconomics status the users of bike-renting system may help to expand the idea of regular cycling among people with low physical activity. The main advantage of a public bike-renting system is providing cheap access to physical activity and because of that it can help reduce health inequalities in group with low socioeconomic status. The preventive actions tailored to people who were not using a public bike-renting system earlier may bring significant health benefits to them.

The level of physical activity among users of public bike-renting system in Łódź

Author(s): Beata Filipek, Jakub Jania Anna Moniuszko, Agata Rocka Kamil Janeczek Medical University of Lodz, Poland Presenting author: Jakub Jania Tutor(s): Joanna Ruszkowska

Introduction

Insufficient physical activity may increase the risk of obesity, cancers, type 2 diabetes and cardiovascular diseases. WHO recommends for adults at least 150 minutes of moderate-intensity aerobic physical activity or at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week. Cycling is considered to be one of the most preferred physical activities in Poland. The public bike-renting system started in Łódź in 2016. The system offers users of special application access to public bicycles. The first twenty minutes of every rental is free.

Aim of the study/purpose

The aim of the study was to explore the relationship between the level of physical activity and the usage of bike-renting system in Lodz.

Material and methods

The study was performed in 2020 and based on an anonymous online survey which was distributed through social media. The self-designed questionnaire consisted of 42 questions, including questions about type, intensity and duration of physical activity per week.

Results

The data was obtained from 226 users, 97 (43%) males and 129 (57%) females . 148 (65,49%) respondents were using the public bike-renting system in Łódź. 117 (79%) people among users of public bike-renting system and 53 (68%) non users claimed to be physically active or rather physically active. The half of cyclists (74, 50%) were active 2-3 times a week while only 25 (32%) non users claimed the same frequency of physical activity. The duration of physical activity in cyclists was much longer than in the second group. 105 (71%) of cyclists claimed to be physically active for 30 minutes or more daily (during the day of physical activity).

Conclusions

Insufficient physical activity can contribute to obesity, cardiovascular diseases, several cancers and type 2 diabetes. Regular cycling may improve overall fitness and help meet WHO physical activity recommendations. The study shows a higher level of physical activity among users of bike-renting system in Lodz. Cyclists contrary to non users were physically active more often and for longer period of time. Therefore, there is a need to promote the idea of bike-renting system among inhabitants of Lodz. As a result, the new group of people can be more physically active and more healthier thanks to using the bike-renting system.

Impact of COVID-19 pandemic in Poland on the quality of life and distress of children and adolescents with type 1 diabetes and their families

Author(s): Anna Fedorczak, Inga Barańska Weronika Pokora, Monika Wilczyńska Medical University of Lodz, Poland

Katowice Bussines Univeristy - Górnośląska Wyższa Szkoła Handlowa im. Wojciecha Korfantego Presenting author: Anna Fedorczak

Tutor(s): Beata Mianowska, Agnieszka Szadkowska

Introduction

Type 1 diabetes (T1D) is one of the most common pediatric chronic diseases. Families with affected children are usually heavily-dependent on national healthcare system - they need continuous supply of insulin and medical equipment as well as regular outpatient consultations. The current COVID-19 pandemic and its strain on healthcare system might heavily affect their quality of life(QoL) and their satisfaction with diabetes care.

Aim of the study

Aim of the study is to compere the QoL of patients with T1D and families before and during the COVID-19 pandemic and to assess what are the concerns and difficulties for DM1 patients and their parents due to current epidemiological situation.

Material and Methods

This is a redesign of a prospective study assessing QoL of children with T1D and their families, which was disrupted by the COVID-19 outbreak after collection of initial questionnaires. Quality of life was measured with two internationally-standardized questionnaires assessing positive (TIDAL - type 1 diabetes and life) and negative (PAID - problems areas in diabetes) aspects of life with T1D. The surveys were collected during routine outpatient visits and scheduled education sessions from consenting parents of children with T1D. Children >8 y.o. were also offered age-tailored version of questionnaires. This group will be contacted by phone and/or mail during the COVID-19 pandemic and again fill up questionnaires. Additionally, they will complete a semi-open questionnaire assessing the impact of current epidemiological situation on their life with diabetes.

Results

The initial results are based on first bout of questionnaires carried out before COVID-19 outbreak. We recruited 98 eligible families of children with T1D ($\tilde{1}2\%$ of Department patients) who were 12.3+/-3.6 y.o. and had diabetes for 5.1+/-3.6 years (mean HbA1c 7.8+/-14%). About half (N=42, 47.7%) of families used glucose meters as their only glucose monitoring tool - others used continuous glucose monitoring on regular basis). Mojority of the group was treated with continuous subcutaneous insulin infusion (N=73, 82.3%), the rest with multiple daily injections. Median diabetes distress score was 37 (25-75%: 30 - 45) for children and 60 (48-68) for adults. High distress (cutoff >44) was noted in 23 (30.1%) of eligible patients. Median TIDAL score was 1548.3 (1358.7-1739.1) for children and 1395 (1120.7-1590.9) for adults. PAID and TIDAL scores were significantly correlated for children (R=-0.65, p < 0.0001) and parents (R=-0.47, p < 0.0001). Patient-reported distress was weakly correlated with current HbA1c(R=0.23, p=0.0493). The pick-up rate of secondary questionnaires and paired comparisons are yet to be determined.

Conclusion

The study collected an initial measure of QoL of children with T1D and their families. These data provide unique opportunity to assess the effect of pandemic-related strain on healthcare system and on well-being of patients with chronic diseases.

Curse or blessing? - problem of Internet addicion amongst medical degree students

Author(s): Mikołaj Wyrzykowski, Adrianna Biecka Krzysztof Kuźma, Sylwia Kozak, Konrad Kaminiów Śląski Uniwersytet Medyczny w Katowicach, Poland Presenting author: Adrianna Biecka Tutor(s): Grzegorz Brożek

Introduction: It is documented that the prevalence of behavioral addictions in the society is increasing, hence there is a strong need for exploring this issue and providing reliable scientific studies. Behavioral addictions are related to multiple repetitions of an action, to satisfy the irresistible urge of the conduct. The changing social trends in pair with modern technological solutions create a reality which becomes more online than ever before. Behavioral addictions, especially the ones steaming from the excesive Internet use, carry serious consequences, from physical and emotional problems to disorders in private life. The fact that the Internet is commonly and widely used on a daily basis makes the problem more difficult to recognise and thus more dangerous.

Aim of the study: To explore the problem of Internet addiction among II grade students of medical degrees in Silesian Medical University and determine groups of people who are highly exposed and would benefit from a special supervision.

Materials and methods: A two-piece, anonymous survey was used to hold the research. The first, obligatory part consisted of general questions (age, gender, place of living etc.) while the second one was dedicated to Problematic Internet Use Tests, adaptation of the Internet Addiction test by K.Young, filled out by those who subjectively assessed themselves as potentially at risk of addiction. Data from both parts of survey were compared and analysed with Statistica 13.0. The analysed group consisted of 619 students.

Results: The Problematic Internet Use Test (TPU) was filled out by 205 respondents (33,12%). The average age was 20,81 +/- 1,20; for women (N=168) 20,76 +/- 1,12 and 20,97 +/- 1,54 for men (N=37). 13,69% of women obtained results indicating high risk of problematic use of the Internet in the future. Amongst men the number was higher and equaled 24,32%.

Conclusion: No risk group was determined in the study, as no significant correlations were found between any of the studied factors and the problematic use of the Internet. However, this indicates that everyone can be a potential subject, regardless of gender or age. The high percentage of respondents who presented high risk of Internet addiction shows how prevalent the problem is and that it is essential to take it into serious consideration.

Pregnant smokers attitude towards smoking while being pregnant

Author(s): Lelde Gaspersone, Anete Vanaga Rīga Stradiņš University, Latvia Presenting author: Lelde Gaspersone Tutor(s): Laila Meija

Introduction. Maternal smoking is one of the most important and avoidable causes of adverse pregnancy outcomes representing the first major environmental risk for the unborn. Exposure to tobacco smoke is considered to be amongst the most harmful and it is associated with variety of negative health effect for the mother and child, like preterm birth, low birth weight, and various physical and functional birth defects. Education and support are highly important in decreasing maternal smoking and it is imperative that smoking control should be seen as a public health priority.

Aim of the study. Aim of this study was to investigate the opinion and attitude towards smoking during pregnancy amongst pregnant women who smoke.

Materials and methods. The study including 199 women took place in prenatal care facilities and maternal departments in Latvia during the period of 2017.-2019. Women who had smoked during pregnancy were interviewed using a multi choice questionnaire, all participants provided written informed consent. Data were analysed using SPSS and MS Excel.

Results. Participants were aged 16-46 years, mean age being 28,13 years (SD = 5,70). Out of all the participants 36.7% (n=73) were aged 16-25 years, 52,3% (n=104) were aged 26-35 years and 11.1% (n = 22) were aged 36-46 years. On average the women smoked 16,21 cigarettes daily (SD=19.17). Only 2% (N=4) had smoked hookah and 3.1% (n=6) had smoked electronic cigarettes. 89,3% (n=168) wants to quit smoking or are actively trying to quit now. 82,8% (n = 154) are planning to quit in the following 12 months. Only 9% (n=18) have been encouraged to quit smoking by a general practitioner, 28,6% (n=57) were encouraged by their gynaecologist. Of all women 34% (n=66) are strongly concerned about the harm smoking causes the fetus, 20.6% (n=40) are not concerned at all.

Conclusion. Smoking during pregnancy is widespread between different age groups, with the greatest prevalence in women aged 26-35 (52,3% n=104). Most of the participants are planning to quit smoking (89,3% n=168). Less than a third of the participants have been encouraged to quit smoking by a healthcare professional (9% - 28.6%).

Habits of using contraception and emergency contraception among young people in Latvia

Author(s): Agnese Osīte, Agnija Vaska Rigas Stradins University, Latvia Presenting author: Agnese Osīte Tutor(s): Gunta Lazdane

Objectives: People in Latvia are prejudiced and misinformed about emergency contraception pills although this solution can decrease the amount of unintended pregnancies and induced abortions. The aim of the study was to clarify whether there is correlation between knowledge about emergency contraception and habits of contraception usage in general.

Material and methods: Originally developed questionnaire including 39 open and multiple choice questions about sexual education and knowledge, use of contraception including emergency contraception was used for survey carried out from December 2018 to May 2019 in two ways: (1) in the Internet visidati.lv (N=141, 26%) and (2) by distributing hard copies in educational institutions (N=210, 37%), and employees in the private sector (N=210, 37%). It was approved by RSU Ethics committee (Nr. 6-3/123). Data was statistically analyzed in Microsoft Excel 2013 and IBM SPSS Statistics 23 (software, version 20.0).

Results: 561 people in the age group from 16 to 45 years participated in the study, however, detailed statistical analysis was carried out in age range from 16 - 30 years old and who has had sexual intercourse (N=324).

Between respondents who thought that emergency contraception could damage the fertility (N=237) there was higher percentage of people who do not use contraception at all on daily basis - 46.8 % (N=111).

Between respondents who thought that emergency contraception could not damage the fertility (N=87) there was higher percentage of people who did use contraception on daily basis - 69 % (N=60) (p<0,05).

Conclusions: People who have had sexual intercourse and do not use any type of contraception on daily basis have a gap of knowledge on emergency contraception and shows irresponsible behaviour regarding safe practice.

Patient-centered oncology care at Masaryk Memorial Cancer Institute, Czech Republic

Author(s): Laura Veinberga Rīga Stradiņš University, Latvia Presenting author: Laura Veinberga Tutor(s): Marek Svoboda, Olga Sapoznikov

Background. Patient-centered care entails providing multiple aspects for optimal cancer care, however necessities of oncology patients are often difficult to manage by healthcare system. Therefore, it is needed to evaluate the efficiency of overall care centeredness, in order to improve the delivery of cancer care.

Aim.

The study aimed to investigate patient-centered oncology care at Masaryk Memorial Cancer Institute (MMCI), Czech-Republic as seen by foreign nationals.

Methods.

A questionnaire of patient-centered cancer care was proposed to non-czech citizens treated at MMCI. The questionnaire was designed by an INTENT group as part of Interreg Central Europe project INTENT. Questionnaires included basic demographic data and 5 sections of questions- communication; shared decision making; accessibility to services; psychological support; participation in clinical trials. Time of survey was from April until June 2019. Data was proceeded using SPSS 22.0.

Results. Overall 25 of 138 questionnaires were received back, 76% females, 16% males, 8% did not mention their sex. Age distribution- 18-34 year olds (8%); 35-49 year olds (32%); 50-64 year olds (16%); 65 and older (44%). The most common cancer sites included breast (23%), colorectal (13%) and prostate (10%). Overall 54% of respondents marked meeting in person with healthcare professional as the most important channel on receiving disease related information. More than half (52%) preferred to be informed on all available treatment alternatives, 20% needed more support from doctors when evaluating different treatment options. Only 28% of respondents did not want to participate in shared decision making. Regarding the accessibility to services, more time dedicated during doctor visits was reported as necessary by 48% respondents. Top three services respondents claimed to benefit the most at home (as opposite to in-hospital care) are nursing support (20%), physical therapy (18%) and pain control care (17%). Psychological support was reported as beneficial at any stage of disease by 48% respondents. Lastly, 96% marked research as necessary condition to improve cancer care and 92% were willing to donate tumor tissue samples to Biobank.

Conclusion . Majority of oncology patients prefer receiving disease related information from the healthcare professional in person, and being involved in shared decision making regarding medical treatment. More dedicated time, availability not only to medical, but also psychological services are important in order to improve patient-centered cancer care.

The whole world in just a few square inches - the probem of phone addiction among Medical University students.

Author(s): Mikołaj Wyrzykowski, Adrianna Biecka Krzysztof Kuźma, Sylwia Kozak, Konrad Kaminiów Śląski Uniwersytet Medyczny w Katowicach, Poland Presenting author: Mikołaj Wyrzykowski Tutor(s): Grzegorz Brożek

Introduction: In the 21st century the technological advance apart from many advantages may also lead to many threats. The compression of multiple fields of professional, social and private life as well as entertaiment, culture and communication to just a few square inches of a screen caused a significant increase of phone addictions in the society. Scale of the problem carries a vast number of serious consequences, such as physical problems, emotional disorders, difficulty in establishing relations, reduced concentration or disabilities on the personal and professional fields.

Aim of the study: The aim of the study was to estimate the incidence of phone addiction amongst II year students of medical courses at the Medical University of Silesia in Katowice.

Materials and methods: A two-piece, anonymous survey was used to carry out the research. The first, obligatory part consisted of general questions (age, gender, place of living etc.) while the second one was dedicated to the Addiction to Mobile Phone Questionnaire by Beata Pawłowska.

Results: 206 respondents decided to complete the phone addiction questionnaire. The average result was 75,52 points +/- 16,99, for women 76,31 +/- 17,17, for men 73,03 +/- 15,93. As the criterion of phone addiction threat, the values from range 75-109 were established. The values higher than 109 indicates that the person is already addicted. In the group of respondents, people at risk of telephone addiction accounted for as much as 44.66%, while addicts - 4.37%.

Conclusions: There was no statistically significant correlation between gender, marital status, orientation or source of income and phone addiction. Nevertheless, the results obtained will enable the identification of people evincing the problem of mobile phone addiction, as well as selecting groups that could be covered by special attention and therapeutic care.

Get informed, get healthy! HPV vaccination problem

Author(s): Marek Olesz, Sara Karwot Magdalena Świątko Medical University of Silesia in Katowice, Poland Presenting author: Karolina Jakubowska Tutor(s): Tomasz Wikarek

Cervical cancer is the seventh most common of malignant cancers in Poland and fifth int the world. Recently more and more cities across Poland have decided to provide its citizens with a prophylactic HPV vaccination programmes. For specific age groups - mostly teenagers between 12-13 years old - preventive action is refunded. However, the rate of vaccinated people in Polish population is still relatively low and consequently the country's health system is still struggling with HPV-related diseases like cervical cancer.

The aim of this study is to determine the knowledge about HPV vaccination among Polish women in correlation with their hometowns' approach toward funding prophylactic programs directed against HPV infections.

The study included 2059 women from various cities and villages across Poland who completed anonymous questionnaire with 28 questions regarding their place of residence, general knowledge about the HPV vaccination and the prophylactic programme.

The results have shown that the vast majority of the respondents have heard about the HPV vaccination (88,6 %) while only 11,4% was unaware about its existence. Moreover, 51 % of women, who participated in the research, have heard about the prophylactic free vaccination programmes. Among this group 66% are from a city that is currently upholding such health initiative. Last but not least, the knowledge about the complementary programme varies among different age groups. 67,6% of women above 40 years old knew about the accessibility of such initiative, 45,1% in the age group of 26-40 years old, 49,3% in the age group of 18-25 years old and only 39,8% of surveyed teenagers were aware of the project.

In conclusion, the knowledge about the HPV vaccination is relatively high in Poland. However, the awareness of prophylactic vaccination programmes is lower and differs depending on the age group and the city's health policy. Prophylactic HPV vaccination programmes are definitely a step in the right direction, being at the same time the one, that should be followed by a better informative campaign dedicated to citizens. And this should be a task for both local and state level authorities.

Coronary Artery Disease Education Questionnaire - survey study among Polish students

Author(s): Gabriela Kanclerz, Karol Nowak Gabriela Frącz, Renata Drozd Aleksandra Kuźniar Jagiellonian University Medical College, Poland Presenting author: Gabriela Kanclerz Tutor(s): Jarosław Zalewski

Introduction: Coronary artery disease (CAD) is one of the most common cause of death in Poland. Nevertheless, the level of knowledge about this pathology, risk factors and complication seems to be insufficient in our society.

Aim: To investigate the level of knowledge about CAD among Polish students.

Materials and methods:

We conducted a survey study by internet questionnaire. Interviewees were 173 students of Polish universities. The questionnaire was prepared in accordance to second version of Coronary Artery Disease Education Questionnaire (CADE-Q II). There were 31 questions that assess students' literacy, in each four options to choose: right answer (for 2 points), half-right answer (1 point), wrong and "I don't know" answer- both marked as 0 points. The maximum overall score of the test was 62 points.

Results: We collected answers from 173 participants. Among them, there were 60 men (34.7%). The mean age of contributors was 22.0 (21.0-22.0) and the mean overall result of the survey was 48.0 (44.0-52.0). In the questionnaire, 118 participants declared the contact with cardiovascular diseases (CVD) that was defined as their own illness or their family members or friends being affected. Suprisingly, in direct comparison of both groups - the students who had contact with CVD and who not had, there were no significant differences in terms of gender, age, the place of residence and the sum of the survey. The trend to higher self-assessment of knowladge was observed in contributors who had contact with CVD (P=0.06). By multivariable analysis, the younger age (beta=-0.87, P=0.001) and higher self-assessment of knowladge (beta=2.58, P=<0.001) was independently associated with higher overall survey score.

Conclusion: The knowledge about CAD in polish students may be considered as insufficient, Unfortunately, the personal contact with CVD did not correlate with higher CAD literacy. Further CAD awareness campaigns are necessary to gain adequate knowledge about CAD in Polish students.

Radiology



Coordinators: Marcin Mostowy, Mateusz Zbylut,

Jury:

dr n. med. Michał Podgórski , lek. Tymoteusz Mańkowski,

Fetal position on ultrasound examination and congenital heart disease - are they related?

Author(s): Filip Karuga, Bartosz Szmyd Medical University of Lodz, Poland Presenting author: Filip Karuga Tutor(s): Maria Respondek-Liberska

Introduction

Ultrasound (US) is the principal imaging modality used to diagnose and evaluate congenital heart disease (CHD), which is the most common birth defect worldwide, affecting 9.410 per 1000 newborns. Some of them may require emergent treatment in the newborn period to improve their survival. Mother's BMI, amniotic fluid index, foetal mobility and presentation are the factors which influence the precision and difficulty of prenatal US examination. During the 3rd trimester of gestation majority of foetuses assume cephalic presentation (left -CI or right - CII cephalic position). In our study we considered if foetuses with CHD have any predilection to any positions. It has never been reported before.

Aim of the study

The aim of the study was to determine if fetuses with CHD have any predilection to any particular positions. Material and methods

We analysed results of 1620 (control - 835, isolated CHD - 321, non-isolated CHD - 464) fetal cardiac US performed between June 2016 and September 2019 at the Department of Prenatal Cardiology. We took into the consideration the last US examination. Only singleton fetuses older than 20 weeks of gestation, which were healthy or with CHD (isolated and nonisolated), were enrolled in the study. The following parameters: gestational age, fetal position (CI, CII; breech position - B, transverse position - T, oblique position - O), CHD, and noncardiac anomalies/defects were taken into consideration for further statistical analysis (Statistica 13.1 PL).

Regulte

Healthy fetuses (average gestational age: 28.9 ± 4.7 weeks) revealed 41% of CI, 29% of CII, 18% of B, 10% of T, and 2% of O. In the case of isolated CHD (32.9 ± 4.6) these frequencies were equal to 40% of CI, 43% of CII, 10% of B, 6% of T, and 1% of O. And in the case of non-isolated CHD (33.2 ± 4.5): 45% of CI, 38% of CII, 13% of B, 3% of T, and 1% of O. A statistically higher frequency of CII position among fetuses with CHD, both isolated and non-isolated, in comparison to healthy control was observed (p < 0.0001, p < 0.0001, and p = 0.0015, respectively; n = 1620). These findings may be an effect of more advanced gestational age of CHD patients. Therefore, we performed further analysis in age groups: \leq 26, 27-32, and \geq 33 weeks of gestation, which revealed statistically significant differences in CII position among the \geq 33 weeks of gestation group of CHD fetuses, especially isolated ones, when compared to healthy controls (p = 0.0292 and p = 0.0049, respectively; n = 674). For the \leq 33 weeks of gestation group the average gestational age of the control group, isolated and nonisolated CHD, were: 35.1 ± 1.6 , 36.1 ± 1.8 and 35.9 ± 1.8 respectively. Conclusions

Fetuses with CHD had a predilection to right cephalic position more often than healthy fetuses. Because this factor determines the high-quality of US examination, it should be mentioned in medical reports of prenatal ultrasound.

Brain incidentalomas - the utility of the 18F-FDG PET/CT examinations in the oncological patients' management.

Author(s): Julia Wojtowicz, Adrianna Medak Katarzyna Pietrasz Poznan University of Medical Sciences, Poland Medical University of Łódź, Poland Presenting author: Julia Wojtowicz Tutor(s): Agata Karolina Pietrzak, Witold Cholewiński

Introduction: The 2-deoxy-2-[18F]fluoro-D-glucose positron emission tomography/computed tomography (18F-FDG PET/CT) scanning protocol varies among nuclear medicine departments. The non-tumour-specific properties of the radiotracer 18F-FDG make the brain lesions differential diagnosis difficult due to homogeneously high 18F-FDG uptake within the region. Therefore, the area above the base of the skull is most often excluded from the 18F-FDG PET/CT acquisition protocol. However, performing a full 18F-FDG PET/CT study protocol which includes the area: apex of the skull - mid-thigh may result in discovering suspicious lesions within the brain.

Purpose: This study aims to show that using a full 18F-FDG PET/CT scanning protocol may result in the detection brain lesions, which affects the oncological patients' therapeutic management.

Material and methods: In this study, we have retrospectively analyzed 1348 patients examined with the $18F\text{-}FDG\ PET/CT$ technique using the full scanning protocol, including the skull apex - mid-thigh area. The scanning has been performed at 60 minutes (min) post-injection (p.i.) of the radiopharmaceutical 18F-FDG in activity of 340 ± 66 megabecquerels (MBq), range: 211-544 MBq. We found suspicious findings within the eyes, brain and the skull apex in 49 patients (31 women, 18 men, mean age $\pm SD$: 59 ± 13 years, range: 21-84 years). All lesions underwent histopathological examination. The examined patients were initially diagnosed with breast, prostate and lung cancer, sarcoma and melanoma malignant.

Results: According to histopathological examination results, in 35 patients diagnosed with different oncological diseases, the suspicious brain findings have been evaluated as metastatic tumors and 1 as a benign arachnoid cyst. Due to patients' follow up data, in 13 subjects, the lesions within the brain, eyes, and skull have been previously diagnosed as malignant (11 patients) and benign (2 arachnoid cysts). Due to standard therapeutic protocol, all malignant lesions underwent surgical resection.

Conclusions: Performing a full 18F-FDG PET/CT scanning protocol can effect with discovering unsuspected malignant lesions within the brain and other pathologies which may significantly affect further therapeutic management.

Differences in internal carotid artery tortuosity after coiling of intracranial aneurysms

Author(s): Maciej Frączek
Jagiellonian University Medical College, Poland
Presenting author: Maciej Frączek
Tutor(s): Roger Krzyżewski, Kornelia Kliś
Borys Kwinta

Introduction:

Arterial tortuosity is a phenomenon that affects hemodynamics of blood flow. It is influenced by patients age, atherosclerosis, arterial wall damage and collagen defects and deficiencies. However, impact of surgical procedures such as clipping or coiling of aneurysms on arterial tortuosity is unknown.

Aim of the study:

In our study we decided to determine, whether tortuosity of internal carotid artery (ICA) is affected by performing coiling of cerebral aneurysm.

Material and Methods:

We performed a retrospective analysis of 52 patients with single intracranial aneurysm, treated with endovascular procedure. Based on their Digital Subtraction Angiography images, obtained prior to the procedure and after first follow-up examination (avg. 15 months), we analyzed tortuosity of ICA, both on the side of embolization and on the other side. Following tortuosity descriptors were calculated: relative length (RL), sum of angle metrics (SOAM), triangular index (TI), product of angle distance (PAD), and inflection count metric (ICM). To represent changes in tortuosity, for each descriptor we defined Δ as value of the descriptor prior to embolization - value of the descriptor on follow-up examination. Additionally, from medical records, we obtained each patient's medical history including previous and current diseases and medications.

Results:

In the follow up the tortuosity of ICA changed on both coiled and not coiled side. Mean ΔRL was significantly smaller on coiled side (-0.02 ± 0.03 vs -0.01 ± 0.03 ; p=0.002) in comparison to the other side. ΔPAD (1.06 \pm 0.98 vs 0.54 \pm 0.92; p=0.007) and ΔICM (2.41 ± 2.18 vs 1.1 ± 1.85 ; p=0.001) were significantly bigger on the embolized side . Furthermore, male patients had higher ΔTI (-0.04 ± 0.12 vs 0 ± 0.07 ; p=0.018) of both ICA, in comparison to female ones. Additionally, patients taking angiotensin-converting-enzyme inhibitors (ACEI) had significantly smaller $\Delta SOAM$ (-0.12 ± 0.17 vs 0.58 ± 0.59 ; p=0.011) and ΔPAD (0.12 ± 0.25 vs 1.16 ± 0.98 ; p=0.023). We also observed that there is a significant negative correlation between age and ΔTI (R=-0.23; p=0.018). Logistic regression analysis showed that embolization independently influenced the increase of ΔICM (OR 1.29, 95%CI: 1.04-1.65; p=0.027) and reduction of ΔRL (OR 0.18, 95%CI: 0.03-0.92; p=0.046).

Conclusions:

In our study we observed that coiling procedure performed on cerebral aneurysms may increase the tortuosity of ICA. Patients' age, sex and ACEI intake also appeared to influence changes of tortuosity of ICA.

TANDEM OCCLUSION - IF YOU SEE IT, STENT IT

Author(s): Justyna Żyga, Aleksandra Porzucek Jakub Niziołek Medical University of Lublin, Poland Presenting author: Justyna Żyga Tutor(s): Anna Drelich-Zbroja, Maciej Szmygin

Ischemic stroke is a significant medical issue that mostly causes chronic and serious disabilities in society. Tandem Occlusion is defined by an acute ischemic stroke of large vessels concerned with the occlusion of the internal carotid (ICA) and concomitant intracranial artery. This major challenge in acute strokes is poorly represented in randomized trials. Thrombectomy remains a standard of care and there are generally three treatment ways: thrombectomy alone, thrombectomy combined with ICA stenting, and thrombectomy with ICA angioplasty. In the current case, the second strategy with anterograde approach was performed (from proximal to distal artery revascularization) - same as in the majority of published approaches.

Examinated 56-years old patient presented symptoms of extensive right-sided neurological deficiencies (21 points in NIHSS score). In angio-CT image of total right ICA occlusion that reaches the right middle cerebral artery. Thrombolytic treatment with thrombectomy was performed successfully with total recanalization of the intracranial artery. The right internal carotid artery has been stented. In further CT there were any signs of intracerebral hemorrhage and no neurological deficiencies have been observed (NIHSS 0 points).

Emergent stenting of the internal carotid with antithrombotic agents in conjunction with thrombectomy seems to be the best treatment strategy for acute ischemic strokes with tandem lesions. The anterograde approach (proximal to distal revascularization) and retrograde approach (distal to proximal revascularization) have been reported in researches, but there are no clear consensus or standard guidelines for treatment. Therefore further trials on large scale are needed to determine the best strategy for this pathology.

Sketching the picture of patients with a negative stress test result based on the analysis of data obtained using an ECG-gated Multiple-row Detector CT scanning

Author(s): Piotr Machowiec, Patryk Leszczyk Dominik Niemirski Medical University of Lublin, Poland Presenting author: Piotr Machowiec Tutor(s): Elżbieta Czekajska-Chehab

Introduction:

Cardiac stress test is a non-invasive diagnostic examination used in patients with symptoms of coronary artery disease before making a decision about further therapeutic management. The positive test result has been one of the main indications for coronary angiography so far. In recent years, it is increasingly common for the invasive coronary artery assessment method to be replaced by ECG-gated multiple-row detector computed tomography (ECG-gated MDCT).

Purpose: The aim of the study was to analyze the lesions found in ECG-gated MDCT in patients with a negative stress test result and to assess the significance of ECG-gated MDCT in such cases.

Material and methods:

ECG-gated MDCT results of 331 patients (162 women, 169 men, aged 11-81, mean 57.5 \pm 12.3) with symptoms of stable coronary artery disease and a negative stress test result, referred to the 1st Department of Radiology Medical University of Lublin in 2015-2019, were analyzed. Patients were examined using the 256-rows GE Revolution CT system by the method of plain scanning with 0.6 mm collimation and after intravenous administration of a contrast agent. The analysis included the assessment of atherosclerotic coronary lesions based on a 0-4 scale referring to typical coronary angiography lesion classification, the evaluation of anatomical variants of coronary arteries, in particular the recessive arteries as well as the occurrence of muscular bridges. Results: Atherosclerosis of the coronary arteries was found in 282 subjects (85.1% of the group), i.e. 130 women (39.2%) and 152 men (45.9%). Significant stenosis was found in 70 subjects (21.1%), including 7.6% women, 13.6% men, p = 0.015 - a statistically significant difference, (LAD-40 cases, RCA 26 cases, LM 0 cases, LCx and OM 24 cases and Dia 23 cases). In these patients, single vessel disease occurred in 43 subjects, 2-vessel disease in 19, and 3-vessel disease in 8. Among 212 patients with insignificant lesions, in 19 subjects the largest stenosis was borderline lesions, in 193 - mural lesions. In 49 patients, no coronary artery stenosis was reported.

Conclusions:

Atherosclerotic lesions in coronary artery occur in the majority of patients referred for cardiac CT due to the presence of coronary pain with a negative stress test result. Significant/critical coronary stenosis is detected in more than 20% of subjects, with higher prevalence in men in this group compared to women. ECG-gated CT in most patients with a negative stress test result and without significant coronary artery stenosis allows the detection of lesions that may explain the clinical symptoms.

Metastasis of colon and rectal cancer detected in PET/CT.

Author(s): Sylwia Nemeczek, Tomasz Szawłoga Adrianna Serwin, Paweł Olko Medical University of Lublin, Poland Presenting author: Sylwia Nemeczek Tutor(s): Anna Nocuń

Introduction: PET CT is a very good reference method for detecting cancer. It is suitable for detecting primary and secondary changes as well as metastases. Thanks to it, it is possible to detect metastases to typical, often occupied locations, e.g. liver, and to places not detectable by other methods, e.g. bone metastases. Aim of the study: Retrospective analysis and systematization of the type and location of metastases in colon (C18) and rectal (C20) cancer. Materials and methods: The database of the Department of Nuclear Medicine, Medical University in Lublin was analysed for patient with pathologically proven colon and rectal cancer who underwent FDG PET/CT. Images were acquired using PET/CT system Biograph mCT S(64)-4R (Siemens, Germany). CT was performed without contrast enhancement. Results: Among PET examined people in the period from January 2014 to April 2019, 137 (61%) from 224 patients with colon cancer had meta-like neoplastic lesion. In rectum cancer it was 209 (70%) from 296. In the first group age was from 34 to 85 years with mean 64. In the second one from 39 to 90 years with mean 65. In both groups majority of patients were men 84 vs 53 and 135 vs 74. Most patients in first group had lesions located in liver (73 patients), lymph nodes (51), lungs (30), other locations were less frequent used e.g. peritoneum (27), bones (12), muscles (12), sporadically spleen (3), kidney (3) and adrenal gland (3). In the second group liver (94), lungs (80), lymph nodes (54), less frequently bones (16), peritoneum (10), sporadically muscles (7), adrenal gland (3) and spleen (2). In the first group 53 (38%) patients had solitary tumor. The most occupied spot was liver (26), peritoneum (10), often lungs (9) and lymph nodes (8). In the second one 48 (23%) had solitary tumor, most occupied spot was liver - (21) followed by lungs (16), often lymph nodes (8), occasionally peritoneum (1), spleen (1), muscles (1). Conclusions: In the presented case both colon and rectal cancer had meta changes occurring in various organs, the most often in the liver, lungs and lymph nodes. Also in the case of a single lesion, these were the most common metastatic locations.

Neurological complications of flow diversion therapy in treatment of intracranial aneurysms

Author(s): Ositadima Chukwu, Katarzyna Ciuk Collegium Medicum Jagiellonian University, Poland Presenting author: Ositadima Chukwu Tutor(s): Paweł Brzegowy

Introduction

Safety of flow diversion has been proven, but this technique is associated with specific technical difficulties and slightly higher complication rate than other available treatment alternatives (regular stent and coiling). As a relatively new novel technique flow diversion is still examined to establish its thorough indications, safety and efficiency.

Aim

The aim of this study was to evaluate the rate of ischemic complications after flow diversion therapy.

Materials and Methods

There were 129 patients (100 females, 29 males) with 129 intracranial aneurysms treated with flow diverter stents. Mean patients' age was 53.76 ± 14.02 years. Aneurysms were located in: ICA

(95 -73,64%), VA (9 - 6,98%), BA (5 - 3,87%), MCA (4 - 3,1%), AcomA (5 - 2,98%), PICA (6 - 4,65%) and other localizations (5 - 3,87%). 59 aneurysms were treated with SILK flow diverter (SFD), 65 with Flow Re-Direction Endoluminal Device (FRED™) and 5 with p64 Flow Modulation Device. Length of devices varied from 15mm to 39mm and diameter from 2mm to 5mm respectively. 8 aneurysms were ruptured and treated in acute phase of SAH. The aneurysms were evaluated with DSA (Digital Subtraction Angiography) and in follow-up group (78 cases) with DSA, MR angiography and CT angiography. The presence of complications such as ischemic stroke or TIA has been evaluated by neurological examination and computed tomography (CT).

Results

Full occlusion (grade 4 in Karman grading scale) was obtained initially in 8 cases (6,20%) and in the follow-up group in 59 cases (75,64%). Temporary neurological deficits were observed in 4 cases (3,1%), they were not associated with any flow disturbances in DSA examination. Permanent neurological deficits after procedure were observed in 4 cases (3,1%): 2 cases after partial stent thrombosis, in 1 case after displacement of FD stent.

In 3 cases is chemic complications appeared in patients with SAH and were not associated with endovascular procedure (2 cases of death due to brain damage, 1 case of permanent neurological deficit).

Conclusions

Flow diversion is safe and effective in treating cerebral aneurysms. Permanent neurological complications are rare.

Treatment of posterior cerebral circulation aneurysms with flow diverter (FD) stents

Author(s): Ositadima Chukwu, Katarzyna Ciuk Collegium Medicum Jagiellonian University, Poland Presenting author: Ositadima Chukwu Tutor(s): Paweł Brzegowy

Introduction

Treating cerebral aneurysms located in posterior circulation is associated with particular difficulties. Implantation of FD stents into basilar artery due to its anatomy (many perforators providing blood flow to crucial parts of brain: brain stem and hypothalamus) may be associated with higher risk of ischemic complications.

Aim

The aim of the study was to evaluate the safety and efficiency of flow diversion therapy in treatment of posterior cerebral circulation aneurysms.

Materials and Methods

20 of the patients (10 males and 10 females) with 20 aneurysms located in posterior cerebral circulation were treated with flow diverter stents. The mean age in that group of patients was 48.15 ± 14.93 . Aneurysms were located in vertebral artery (VA) (n=9, 45%) basilar artery (BA) (n=5, 25%), posterior inferior communicating artery (PICA) (n=6, 30%). Mean height and width of treated aneurysm were 9.55 ± 8.49 mm and 7.41 ± 5.25 cm respectively. In 6 aneurysms SILK (Balt, France) stents were implanted, in 13 FRED (MicoVention Terumo, US), and in 1 P64 (Phenox, US). 6 patients had subarachnoid hemorrhage and were treated in acute phase of disease. The aneurysms were evaluated with DSA (Digital Subtraction Angiography) and in follow-up group (7 cases) with DSA, MR angiography and CT angiography. The presence of complications such as ischemic stroke or TIA has been evaluated by neurological examination and computed tomography (CT).

Results

The full occlusion of the aneurysms (grade 4 in Karman scale) was obtained in 1 patient (5%) immediately after the procedure. In the follow-up 4 patients (57,14%) had total occlusion of aneurysms (grade 4). There was 1 case (5%) of stent displacement. There were 2 (10%) cases of death after procedure (both associated with previous subarachnoid hemorrhage).

Conclusions

Aneurysms located in posterior cerebral circulation remain therapeutical challenge. Our findings suggest that their treatment with flow diversion is safe. There were no neurological complications.

Diffusion tensor imaging and fiber tracking in menal disorders diagnostics - a pilot study

Author(s): Mateusz Ożóg, Hubert Mado Oliwia Warmusz, Maciek Pękała Medical University of Silesia, Poland Presenting author: Mateusz Ożóg Tutor(s): Edyta Reichman-Warmusz

Introduction: Progress of medical imaging allows for more accurate non-invasive visualization of tissues and organs. One of the latest techniques is diffusion tensor imaging (DTI), which allows to visualize the continuity, direction and density of nerve fibers in a given structure of the central nervous system (CNS).

Aim of the study: Showing the possibility of using DTI in the diagnosis of mental disorders based on cases from the NAMIC and Consortium for Neuropsychiatric Phenomics databases.

Material and methods: Imaging examination sets containing T1, T2 and DWI magnetic resonance imaging sequences of CNS from mentioned databases were chosen. Three adult patients with hyperkinetic disorder, bipolar affective disorder (BPAD), schizophrenia and nine healthy people as a comparison group were selected. DTI was generated from DWI using the Slicer software and then applied and scaled to the T1 and T2 sequence. Then, the tactography of neural fibers were modelled and evaluated.

Results: In each group of patients a reduced number of nerve fibers was shown compared to a comparative group consisting of healthy people. For patients with hyperkinetic disorder - in the anterior part of the corpus callosum, with BPAD - in the uncinate fasciculus and with schizophrenia - in the posterior part of the corpus callosum.

Conclusion: By using DTI and fiber tracking, it is possible to visualize a decrease in the number of nerve fibers in a given CNS structure specific for a given pathology. It makes it possible to deepen the diagnosis of mental disorders and to differentiate in doubtful cases.

The usefulness of MR examination in the evaluation of congenital brain defects

Author(s): Monika Zbroja, Weronika Cyranka Katarzyna Drelich, Olga Pustelniak Medical University of Lublin, Poland Presenting author: Monika Zbroja Tutor(s): Magdalena Maria Woźniak

Introduction: Malformations of the central nervous system are among the most serious diseases of the nervous system. Congenital brain defects in children are diagnosed in 2-4 % of newborns. They are a cause of 40% of all deaths in the first year of life. In case of a congenital brain disease suspicion, patients are usually directed to head MR scan.

Aim of the study: The usefulness of MR examination in evaluation of congenital brain defects.

Materials and Methods: The study included a group of 12 children 10 months - 16 years old directed to the magnetic resonance laboratory (MR) due to brain evaluation. Examinations were performed in ≤ 3 mm layers in axial, coronary and sagittal cross sections obtaining T1-dependent, T2-dependent, SPACE and DIR SPACE images. All tests were performed using a 48-channel 1.5T Siemens MR apparatus.

Results: In MR examination 2 agenesis of the corpus callosum, including one due to the widening of the cerebellospinal reservoir and one with the presence of a 21 x 37 x 6 mm lipoma in this location, and also two foci of a similar fatty character were visible in the lateral ventricular lumen. In 2 patients examination revealed hypoplasia of the corpus callosum, in 1 transparent septum agenesis and in 1 septo-ocular dysplasia. Additionally, 3 children were diagnosed with Arnold-Chari malformation and 2 with Dandy-Walker syndrome. One patient turned out to have corpus callosum lipoma.

Conclusions: Magnetic resonance is the method of choice in evaluation of congenital brain defects. As a non-invasive and safe examination, it is useful in diagnostics and monitoring the treatment especially of pediatric patients.

Tandem aneurysms treatment with flow diverter (FD) stents

Author(s): Katarzyna Ciuk, Ositadima Chukwu Marta Bociąga Jagiellonian University, Poland Presenting author: Katarzyna Ciuk Tutor(s): Paweł Brzegowy

Introduction

Tandem aneurysms are rare vascular lesions that are described as the presence of 2 or more aneurysms in close proximity to each other on the parent vessel. They are challenges for surgical and endovascular treatment.

Aim

The aim of the study was to evaluate the safety and efficiency of flow diversion therapy in treatment of tandem aneurysms.

Materials and Methods

15 of the patients (14 women and 1 man) with tandem aneurysms were treated using flow diverter stents. 2 patients had 3 aneurysms and 13 patients had 2 aneurysms. All aneurysms were located on internal cerebral artery. The mean age in that group of patients was 50.2 ± 13.05 . In 10 cases SILK (Balt, France) stent was used and in 5 cases FRED (MicoVention Terumo, US) stent was implanted. Follow up group consisted of 9 patients.

Results

The full occlusion of the aneurysms (grade 4 in Karman scale) was obtained in 2 patients (13,33%) immediately after the procedure. In the follow-up 8 patients (88,89%) had total occlusion of all aneurysms (grade 4). 1 patient (6,67%) with SAH had acute in-stent thrombosis, treated with Abciximabum (ReoPro) i.v. injection. Despite the treatment, patient ended up with permanent neurological deficit.

Conclusions

According to our study, the treatment of tandem aneurysms with FD therapy is effective and safe. Further studies on larger group of patients need to be conducted.

Benign lesions imitating malignant lesions in children - a constant challenge for an ultrasonographist

Author(s): Katarzyna Drelich, Karol Bochyński Ignacy Rożek, Monika Rogowska Medical University of Lublin, Poland Presenting author: Katarzyna Drelich Tutor(s): Magdalena Maria Woźniak

Introduction: Ultrasound is the first choice examination in the differential diagnosis between benign and malignant lesions in children. Modern diagnostics is very helpful in identifying features suggestive for benign lesions that only imitate malignant lesions on the ultrasound examination.

Aim of study: The aim of study is to evaluate the usefulness of ultrasound in diagnosis of benign lesions which imitate malignant lesions in children.

Methods: The study included a group of 11 children aged 10 months to 18 years old in whom benign focal lesions imitating malignant tumours were diagnosed in the ultrasound examination. All children underwent B-mode ultrasound examination as well as color and power Doppler, in 5 patients also microvascular imaging was used. Additionally in 8 patients further CT or MRI scans were required.

Results: Among 11 patients with focal lesions in 5 patients they were located in the liver, in 2 patients in the kidney, in 2 in adrenal glands and in 2 in testicles. In all patients initial ultrasound examination was suggestive for malignant lesions, however using more advanced imaging techniques allowed to identify features suggestive for benign character of the lesions. Among 5 liver lesions 3 appeared to be atypical focal nodular dysplasia (FNH) and 2 were proven as haemangiomas. In 2 patients with kidney lesions suggestive for cystic appearance of nephroblastoma the lesions were finally confirmed to be complicated cysts. In both patients with adrenal glands lesions they turned to be adenomas. And finally in 2 patients with testicular tumours they were confirmed as congenital adrenal hyperplasia (CAH).

Conclusion: Benign lesions in children may present atypical morphology in ultrasound examination mimicking malignant lesions. Modern advanced ultrasound techniques and other imaging techniques such as CT and MRI are very useful in differential diagnosis.

Testicular elastography - Diagnostic value of the test and its practical applications.

Author(s): Michał Żuber, Michał Dacka Karol Bochyński Medical University in Lublin, Poland Presenting author: Michał Żuber Tutor(s): Grzegorz Jerzejewski

Introduction: Elastography is a modern imaging method that allows detection of changes in tissues of significantly small size. This method is used to examine organs such as the liver, ovaries, testes and prostate. The purpose of imaging is to diagnose cancerous tumors at an early stage of development. There are cases in which the elastographic examination allows a departure from the traditional met hod of assessing changes in tissue by biopsy, which allows the elimination of side effects and discomfort felt by the patient.

Aim of the study: The aim of the study is to assess the practical value of diagnostic ultrasound elastography in testicular pathology.

Material and Methods: A group of 17 patients aged 5-18 years was selected for the study, in which, after elastrographic examination, pathological location of the testicles and hypertrophy of the ectopic adrenal tissue in the testicles was confirmed. Philips IU 22 cameras with a 5-17Mhz probe and Siemens S2000 were used for the study. All patients were examined at the Diagnostic Imaging Department of the University Children 's Hospital in Lublin.

Results: In the examined group of 17 patients, elastrographic examination confirmed, in 10 patients undescended testicles, in 4 patients abdominal testicles, in 2 patients testicular ischemia was found, and in 1 patient ectopic adrenal hyperplasia located in the testes.

Conclusions: Elastography is an innovative method that allows for non-invasive examination and diagnosis of all changes within the tissues and in particular in the testicles. It is an irreplaceable tool for confirming the results of a biopsy and might be used instead of biopsy. The study confirmed its effectiveness and diagnostic capabilities.

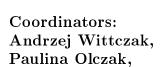
Magnetic resonance - highly effective diagnostic modality for evaluation of knee pathologies.

Author(s): Katarzyna Laszczak, Milena Leziak Sylwiusz Niedobylski, Michał Piwoński Medical University of Lublin, Poland Presenting author: Katarzyna Laszczak Tutor(s): Maryla Kuczyńska

Introduction: Knee is one of the largest joints of the human body. Its pathologies are highly common. Over the past decade, magnetic resonance (MRI) have become the most common method applied in knee imaging. MRI sequences employed in evaluation of the knee structures allow for accurate assessment of the soft tissues, i.e. bone marrow, muscles, ligaments, tendons, menisci, bursae and synovium. However, they are not as effective in depicting bony lesions. Case report: A 20 year-old male patient with a recent history of skiing-injury of the left knee was admitted to the clinic. Based on the initial physical examination, the patient was referred for ultrasound evaluation which revealed traumatic tears of both the medial meniscus and anterior cruciate ligament. Subsequently, MRI was performed to verify the extent of the lesions. It demonstrated moderate left knee joint effusion, together with complete tear of the anterior cruciate ligament, as well as bucket handle-type injury of the medical meniscus (with fragment displaced in the intercondylar eminence of the tibia). A trace of fluid was visible both within both the semimembranosus-gastrocnemius and popliteal tendon bursae.

There were no other relevant findings. Therefore, based on diagnostic imaging findings the patient was referred for surgical treatment. Conclusion: MRI is a highly effective imaging method of the knee joint. Ultrasound access to intraarticular structures such as cartilages, meniscal roots or cruciate ligaments is limited. MRI can provide the most accurate information regarding suspected pathology and enable selection of the most suitable treatment.

Surgery and Transplantology



Jury:

dr hab. n. med. prof. nadzw. Michał Mik, dr n. med. Piotr Jurałowicz, dr n. med. Piotr Koza,

Retrospective analysis of intraoperative cerebral aneurysm rupture predictors

Author(s): Małgorzata Czuba Jagiellonian University Medical College, Poland Presenting author: Małgorzata Czuba Tutor(s): Kornelia Kliś, Roger Krzyżewski Borys Kwinta

Introduction: Intraoperative cerebral aneurysm rupture (IOR) is a common phenomenon with frequency of around 19%. This has been profoundly studied for coiling procedures, but there is less research on operative cerebral aneurysm treatment and its complications.

Aim of the study: Our study's main point is to assess possible predictors of IOR.

Material and Methods: We retrospectively study examined all saccular aneurysms surgically treated from 2013 to 2019. Study group consisted of 198 patients. Operative reports, patient histories, blood test results, discharge summaries and radiological data were reviewed.

Patients who experienced a subarachnoid hemorrhage were assessed with Glasgow Coma Scale (GCS) upon admission and according to the Hunt and Hess system, modified Fisher grading scale, World Federation of Neurosurgical Societies (WFNS) scale and also with modified Rankin Scale (mRS) on discharge. Intraoperative rupture was defined as any bleeding from the aneurysm during surgery.

Results: In our study frequency of IOR was 20.20%. Most of aneurysms were located on middle cerebral artery - 107 (54.04%). Patients with IOR had higher aneurysm dome size (9.43 \pm 8.39 vs. 4.96 \pm 2.57 mm; p < 0.01) in comparison to those without IOR . Presence of blood clot on aneurysm dome was significantly associated with IOR (12.50% vs. 2.53%; p < 0.01). We also observed that lamina terminals fenestration during surgery is associated with lower risk of IOR (7.50% vs. 21.52%; p = 0.04). Multiple aneurysms were also associated with lower risk of IOR (5.00 vs 18.35; p = 0.038). Anticoagulants intake was strongly associated with risk of IOR (5.00% vs. 0%; p < 0.01). Glucose blood levels were also elevated in patients with IOR (7.47 \pm 2.78 mmol/l vs. 6.90 \pm 2.22 mmol/l; p = 0.04). Multivariate analysis associated that urea blood levels (OR 0.55, 0.33 to 0.81, p < 0.01) and multiple aneurysms (OR 0.04, 0.00 to 0.37, p = 0.014) were protective factors against the occurrence of IOR . Analysis also revealed that APTT (OR 1.18, 1.03 to 1.38, p = 0.026) was IOR predictive.

Conclusion: Factors like large dome size of an aneurysm, blood clot on aneurysm dome, anticoagulants intake and elevated glucose blood levels can be a predictive of IOR event. Performing lamina terminalis fenestration, appearance of multiple aneurysm and high urea blood levels may be associated with lower risk of such event.

Outcome of laparoscopic Nissen fundoplication as a treatment of gastroesophageal reflux disease

Author(s): Justyna Kacperczyk, Anna Łukuć Gabriela Gronowicz, Piotr Kozera University of Warmia and Mazury, Poland Presenting author: Justyna Kacperczyk Tutor(s): Natalia Dowgiałło-Wnukiewicz

Introduction

Gastroesophageal reflux (GERD) is a condition which concerns about 20 to 40% of general population. Patients suffering from GERD present bothersome symptoms, such as chest pain, cough, heartburn, which significantly reduces their quality of life. Usually, GERD is chronically treated with proton pump inhibitors (PPIs). Therefore, up to 30% of patients who take PPIs consider them ineffective. In such situation, surgical treatment can be considered as an alternative, for instance laparoscopic Nissen fundoplication (FNL). It can be performed especially among young patients expected to have long-term complications related to drug admission.

Aim of the study

The aim of the study was to evaluate patients satisfaction after NFL in different age groups.

Materials and methods

112 patients who had undergone FNL due to GERD between May 2015 to June 2018 were analysed. The following data were extracted by telephone and personal follow-up using prepared questionnaire about satisfaction after surgery. Statistical analysis was performed in Statistica 13 software (Statsoft, US).

Results

Patients were divided into three groups according to their age: <40; 40-59; >59 years old. A vast majority of patients across those groups would recommend NFL (78,3%; 85%; 73,5%, respectively) and would undergo this procedure again (78,3%; 85%; 77,6%, respectively).

Conclusion

Laparoscopic Nissen fundoplication can be considered as a method of choice for patients suffering from gastroesophageal reflux, especially among patients who are unresponsive to proton pump inhibitors treatment. Post-surgery follow-up shows that majority of patients who undergone NFL are satisfied with the final effect.

An alternative method of percutaneous sclerotherapy of venous malformations in children

Author(s): Krzysztof Krajewski Medical University of Łódź, Poland Presenting author: Krzysztof Krajewski Tutor(s): Przemysław Przewratil

Introduction:

Venous malformations (VMs) are the most frequent of congenital vascular malformations with an overall incidence of 1 to 2 in 10.000 and prevalence of 1%. VMs may appear everywhere in the body as a result of impaired development of the venous network. They are usually diagnosed in childhood but may manifest at any age, with high heterogeneity in location and size. Percutaneous sclerotherapy is suggested as the primary treatment for VMs.

Aim of the study:

The main objective of this study was to evaluate the efficacy of venous malformation treatment using Bleomycin and a combination of gelatin granules, calcium chloride and plasma-derived human thrombin (GCT). Materials and methods:

8 patients diagnosed with extratruncular venous malformations, treated with percutaneous sclerotherapy for VMs of the head and neck region and extremities at the Department of Pediatric Surgery and Oncology, between February 2019 and January 2020. All patients were unsuccessfully treated with Polidocanol in the past. A new protocol of treatment with Bleomycin and GCT was introduced. After treatment, the patients were contacted by telephone and received a questionnaire, where they submitted a self-assessment data. Results of the study were based primarily on the questionnaire assessment, where the patients or their parents were asked about specific symptoms (i.e. pain, swelling, cosmetic disfigurement, hemorrhages, movement impairment) before and after the treatment. A 1-5-point scale was used to evaluate the intensification of symptoms. Patients were also evaluated clinically after the treatment and, in some patients, US of the VMs was performed.

Results:

Movement impairment, hemorrhages and cosmetic disfigurement were reduced after the treatment. Statistically significant (p < 0.05) differences were found only for cosmetic disfigurement, with values 3.625 beforevs 2.875 after the treatment. T-student test for paired samples was used for statistical analysis.

In clinical examinations VMs were relatively smaller and their appearance improved after the treatment. No short- or long-term complications were reported.

Conclusions:

Sclerotherapy of VMs with a combination of Bleomycin and GCT in pediatric patients gives promising results. Reduction of the cosmetic disfigurement after the treatment is relatively high. This method of treatment probably reduces the total number of procedures and hospital stays which is important for pediatric patients and may reduce the overall costs of therapy. Further research on a larger group of patients is required.

Severity of appendicitis predicted by neutrophil to lymphocyte ratio and platelet to lymphocyte ratio

Author(s): Akvilė Aleksaitė Vilnius University, Lithuania Presenting author: Akvilė Aleksaitė Tutor(s): Bronius Buckus

INTRODUCTION:

Appendicitis is one of the most common causes of emergency surgery for young population, affecting 8.6 % males and 6.7 % females in their lifetime. Diagnosing complicated appendicitis still remains a challenge. Neutrophil to lymphocyte ratio and platelet to lymphocyte ratio are inexpensive, quick markers that could be valuable in determining the severity of acute

appendicitis.

AIM OF THE STUDY:

The aim of this study is to compare the accuracy of neutrophil to lymphocyte ratio and platelet to lymphocyte ratio to C-reactive protein and total leukocyte count in diagnosing complicated appendicitis.

MATERIAL AND METHODS:

A retrospective study was performed including patients admitted to the surgery department with suspected appendicitis during 2015-2018 years. According to their final histological evaluation and clinical findings patients were divided into positive group with gangrenous or perforated appendicitis and negative group with phlegmonous appendicitis diagnosis. Total leukocyte, neutrophil, lymphocyte, platelet counts and C - reactive protein concentration data were collected. Neutrophil to lymphocyte ratio and platelet to lymphocyte ratio were calculated using absolute neutrophil, lymphocyte and platelet counts. The results were compared among groups.

RESULTS:

A total of 1334 patients were included with 988 patients in negative group and 346 in the positive group. Mean age was 36.78 (\pm 15.60) years. Mean total leukocyte count was significantly higher in the positive group compared to the negative group (14.03 \pm 3.96 and 12.70 \pm 3.66 x10 9 , p<0.0005), as well as C-reactive protein (111.72 \pm 95.59 and 27.41 \pm 35.91 mg/l, p<0.0005), neutrophil to lymphocyte ratio (8.88 \pm 4.97 and 7.54 \pm 5.31, p<0.0005) and platelet to lymphocyte ratio (187.79 \pm 107.89 and 170.10 \pm 84.90, p=0.029). C-reactive protein concentration was found to be the most accurate marker (AUC 0.828, cut off score 32.0 mg/l with sensitivity 80.12% and specificity 73.12%) according to receiver operator curve (ROC) analysis. Neutrophil to lymphocyte ratio had AUC 0.604, cut off score 5.54, sensitivity 73.96% and specificity 42.93%, while total leukocyte count had AUC 0.593, cut off score 13.5 x 10 9, sensitivity 53.35% and specificity 60.20% and platelet to lymphocyte ratio had AUC 0.540, cut off score 159.86, sensitivity 51.04% and specificity 57.22%.

CONCLUSIONS:

Neutrophil to lymphocyte ratio as well as platelet to lymphocyte ratio increased significantly in patients with complicated appendicitis and can be useful tool in distinguishing between simple and complicated appendicitis.

The role of neutrophil to lymphocyte ratio and platelet to lymphocyte ratio in diagnosing acute appendicitis

Author(s): Akvilė Aleksaitė Vilnius University, Lithuania Presenting author: Akvilė Aleksaitė Tutor(s): Bronius Buckus

INTRODUCTION:

Appendicitis is one of the most common cause of abdominal pain in patients admitted to an emergency ward with the incidence rate of 100-151 cases per 100 000 person in Europe and Northern America. There are several inflammatory markers that help with the diagnosis: total leukocyte count, C-reactive protein, bilirubin or neutrophil count, none of which are specific to acute appendicitis. Neutrophil to lymphocyte ratio and platelet to lymphocyte ratio are two new promising inflammatory markers in diagnosing acute appendicitis.

AIM OF THE STUDY:

The aim of this study is to investigate the accuracy of neutrophil to lymphocyte ratio and platelet to lymphocyte ratio in diagnosing acute appendicitis.

MATERIAL AND METHODS:

This retrospective study included patients admitted to the surgery department during years 2015-2018 with suspected appendicitis. Patients were divided into two groups according to their final histological evaluation and clinical findings: positive group with flegmonous, gangrenous or perforated appendicitis and negative group with unconfirmed appendicitis. Total leukocyte, neutrophil, lymphocyte, platelet counts and C - reactive protein concentration data were collected. Neutrophil to lymphocyte ratio and platelet to lymphocyte ratio were calculated using absolute neutrophil, lymphocyte and platelet counts. The results were compared among groups.

RESULTS:

A total of 1944 patients were included in the study, with 612 patients in the negative group and 1332 in the positive group. The mean age was 35.48 years (\pm 15.64). Mean values of new inflammatory markers were significantly higher in the positive appendicitis group compared to negative group -

neutrophil to lymphocyte ratio 7.90 ± 5.25 and 5.31 ± 5.02 , p<0.0005; platelet to lymphocyte ratio 174.82 ± 91.63 and 168.26 ± 103.61 , p=0.005. Using the receiver operator (ROC) curve, neutrophil to lymphocyte ratio had AUC 0.701 with the cut off value 4.14, sensitivity of 77.39 % and specificity of 56.66 %, while platelet to lymphocyte ratio had AUC 0.541 with the cut off value 156.49, sensitivity of 47.36 % and specificity of 59.76 %.

CONCLUSIONS:

Neutrophil to lymphocyte ratio and platelet to lymphocyte ratio are associated with acute appendicitis and can be used along with other inflammatory markers and clinical findings in the diagnosis of acute appendicitis.

Minimally invasive surgery for local excision of benign and selected malignant rectal lesions

Author(s): Anna Marija Lescinska Riga Stradins university, Latvia Presenting author: Anna Marija Lescinska Tutor(s): Vjaceslavs Popkovs

Introduction: In the past decade, transanal surgery has become a n alternative treatment for small rectal lesions. Rectal cancer (RC) is one of the most common cancers in Latvia and Europe. The incidence among the total number of colorectal cancers in the European Union is $\tilde{3}5\%$, i.e. 15-25/100,000 population. As the use of minimally invasive techniques in colorectal surgery has become increasingly prevalent, concerns remain about the oncologic effectiveness and long-term outcomes of minimally invasive operations for the treatment of RC

Total mesorectal excision (TME) remains the gold standard treatment for any stage of RC, especially in more advanced disease, as it most effectively treats the mesorectal lymph nodes and reduces recurrence. However, TME is accompanied by significant morbidity and mortality. Therefore, the role of organ-preserving techniques is growing.

Transanal endoscopic microsurgery (TEM) has been generally accepted for the treatment of early RC and benign rectal lesions not amendable for colonoscopic excision. Because of its high cost, the learning curve, and the complexity of the equipment, TEM is not commonly used.

As a derivative of the TEM technique, transanal endoscopic operation (TEO) and transanal minimally invasive surgery (TAMIS) have evolved, differing from TEM in terms of hardware and performance, and are relatively less expensive and therefore more widely used than TEM.

Since 2017, the TEO method is available in Latvia and is used in the treatment of patients at Riga 1st Hospital.

Transanal modifications of small invasive surgeries offer more opportunities for the treatment of benign and early malignant tumors of the rectum than traditional conventional transanal excision because of their ability to achieve rectal formations that are localized deeper and are more difficult to reach. S ignificant benefits in terms of morbidity and mortality are confirme d .

Aim of the study :TEO is a minimally invasive technique used for local excision of benign and selected malignant rectal lesions. The purpose of this study was to evaluate indications, limitations, surgical technique, early complications and oncological outcome of the treatment.

Materials and methods: Retrospective review of medical documentation of all patients with who underwent TEO with curative intent at Riga 1 st Hospital.

Results: Thirty-five patients underwent 35 TEOs for 36 rectal lesions (16 tubulo-villous adenomas, 7 tubular adenomas, 7 hyperplastic polyps, 5 fibroepithelial polyps and 1 NET. Operative time was associated with lesion size (P < 0.001). Intraoperative complications occurred in 2 patients: 2 rectal perforations. Median hospital stay was 0 days (range,0-3).

Conclusions :Although longer follow-up is still necessary, TEO appears to be an effective method of excising benign tumors and low-risk T1 carcinomas of the rectum. What is more, the resected specimen of a TEO procedure allows adequate local staging in contrast to an endoscopic excision material.

Clinical and radiological long term evaluation of unstable thoracolumbar type A fractures treated by percutaneous surgery after implant removal

Author(s): Gonzalo Mariscal Ruiz-Rico, Rafael Lorente Valencia Catholic University, Spain Presenting author: Gonzalo Mariscal Tutor(s): Carlos Barrios, Alejano Lorente

Introduction: Implant removal represents almost one third of all elective surgeries in orthopedics. There is no consensus regarding the time and need to remove the implants after vertebral fractures consolidation.

Purpose: To assess the clinical and radiological effects of implant removal in patients with vertebral type A fracture who underwent a percutaneous intervention.

Material and methods: We evaluated 31 patients (mean age of 38.2 ± 7.5 years) with thoracolumbar vertebral fracture (T11-L5) who underwent implant removal surgery after 24 months of fracture first surgery by a percutaneous approach. Inclusion criteria focused on patients' preferences. The radiological parameters included fracture angle, initial sagittal index, compression percentage, degree displacement, deformation angle. The clinical variables included Visual Analog Scale and Oswestry Disability index.

Results: There was no significant correction loss after removal surgery (before surgery and after 24 months): Fracture angle (16.8 \pm 0.5 vs 17.1 \pm 0.5; p<0.05), initial sagittal index (12.5 \pm 0.5 vs 12.7 \pm 0.5; p<0.05), kyphotic deformity (17.5 \pm 0.6 vs 17.8 \pm 0.7; p<0.05), compression percentage (35.6 \pm 0.8 vs 36.0 \pm 0.7; p<0.05), degree displacement (4.4 \pm 0.4 vs 4.5 \pm 0.3; p<0.05) and deformation angle (23.0 \pm 0.7 vs 23.1 \pm 0.7; p<0.05). Patients who presented symptoms before the surgery showed worse Visual Analog Scale (1.2 \pm 0.6 pre vs 0.6 \pm 0.3 post, pË,0.05) and Oswestry Disability Index (20.1 \pm 6.8 pre vs 15.7 \pm 0.5, pË,0.05). No complications were reported.

Conclusions: Routine implant removal in patients undergoing a percutaneous approach to vertebral type A fracture is a safe technique and is associated with good clinical results without loss of radiological correction.

Lactate levels in emergency department in polytrauma patients with liver and/or splenic injury

Author(s): Katrīna Deja Mārtinsone Riga Stradins university, Latvia Presenting author: Katrīna Deja Mārtinsone Tutor(s): Alvis Melderis

Introduction: External causes of death like accidents, suicides and criminal traumas are the fifth most common cause of death in the adult population and are responsible for 3% of all deaths among women and 6% among men in the EU countries. Polytrauma patients have life-threatening injuries that are associated with higher mortality and serious disability. 30% of all polytrauma patients have abdominal traumas with spleen and liver as the most frequently injured organs. It is considered that higher lactate levels are associated with higher mortality.

Aim of the study: The purpose of the study was to analyse whether higher lactate levels measured in the emergency department are associated with higher Injury Severity Score (ISS), a longer stay in an intensive care unit (ICU) and mortality in polytrauma patients with splenic and/or liver injury.

Materials and methods: All polytrauma patients who were hospitalized in Riga East clinical university hospital with splenic and/or liver injury over 18 years of age in a three-year period from the start of 2017 to the end of 2019 were retrospectively analysed. The data analysis was done using Microsoft Excel 2016 and SPSS Statistics 23 (descriptive statistics, Spearman test, and Mann-Whitney U test).

Results: From 01/2017 till 12/2019 there were 64 polytrauma patients who had liver and/or splenic injury. From those polytrauma patients, 16 had isolated liver injury, 32 had isolated splenic injury and 16 patients had a combination of both. In 9 cases there were no available lactate test results documented and therefore were analysed 55 patient cases. Overall mortality was 12.7% with 48 patients surviving and 7 patients dying. In the group of surviving patients, the median lactate level was 2.00 [1.35-3.32] mmol/l and in exitus letalis group median lactate level was 4.10 [2.60-5.03] mmol/l. Differences between both groups in lactate levels were statistically significant (Mann-Whitney U test: U=250.500; p=0.035). Lactate level and duration of stay in ICU had no statistically significant correlation (r=0.118; p=0.389). There was a statistically significant association between lactate level and exitus letalis (p=0.036). Lactate level and ISS had moderate (r=0.465) and statistically significant (p=0.000) correlation.

Conclusion: Lactate levels are significantly higher in patients who do not survive after polytrauma with splenic and/or liver injury than in surviving patients. Higher ISS is associated with higher lactate levels. Lactate measured in the emergency department could be used as a prognostic factor of patient mortality in polytrauma with splenic and/or liver injury.

A single-center experience in the treatment of splenic and/or liver injury in polytrauma patients

Author(s): Katrina Deja Martinsone Riga Stradins university, Latvia Presenting author: Katrina Deja Martinsone Tutor(s): Alvis Melderis

Introduction: Polytrauma patients have life-threatening injuries that are associated with high mortality. 30% of all polytrauma patients have abdominal traumas with spleen and liver as the most frequently injured organs.

Aim of the study: The purpose of the study was to analyse the chosen treatment method in polytrauma patients with splenic and/or liver injury and treatment methods results.

Material and methods: All polytrauma patients who were hospitalized in Riga East clinical university hospital with splenic and/or liver injury over 18 years of age in a three-year period from the start of 2017 to the end of 2019 were retrospectively analysed. The data analysis was done using SPSS Statistics 23 (descriptive statistics, Spearman test, and Mann-Whitney U Test).

Results: From 01/2017 till 12/2019 there were 69 polytrauma patients who had liver and/or splenic injury. 11 (15,9%) patients died, 58 (84,1%) survived. In the patient group who died Injury Severity Score (ISS) median was 48 (25-59) and in survived patient group median ISS score was 29 (22-40). ISS score had a statistically significant difference (Mann-Whitney U Test; U=478,000; p=0,009) between those two groups. Another factor for surviving was younger age - the median age in the group who survived was 34 (27-43) and the median age of dead patients was 58 (30-85). Age had a statistically significant difference between died and survived patient groups (Mann-Whitney U Test; U=484,500; p=0,007) In 27 (39,1%) cases were used operative management (OM) and in 42 (60,9%) cases were used non-operative management (NOM). From those who underwent NOM 34 (81,0%) survived and 8 (19,0%) died. In the OM group survived 24 (88,9%) and died 3 (11,1%).

Conclusion: Polytrauma patients with splenic and/or liver injury are treated with NOM more frequently than with OM. Factors such as higher ISS score and advanced age are associated with higher mortality rate, but not the chosen therapy method - OM or NOM.

Long-term functional outcome and risk factors for recurrence after surgical management of perianal fistula - experience tertiary referral center

Author(s): Adam Makaro, Jakub Włodarczyk Oliwia Kwasniewska, Justyna Walczak Aleksandra Basaj Medical University of Lodz, Poland Presenting author: Adam Makaro Tutor(s): Marcin Włodarczyk, Łukasz Dziki

INTRODUCTION: Anal fistula, is a common benign anorectal disorder that is treated mainly by surgeons. Anal fistulae resemble a tunnel connecting the anorectal canal to the perianal skin, which is lined with granulation tissue, and typically results from the healing of a perianal sepsis focus.

Recent studies have shown that the incidence of development of new cryptoglandular anal fistula is around 2 per 10 000 head of population per year. Over 90% of anal fistulas are cryptoglandular in origin and arise from anorectal abscesses.

The aim of the study was to analyze the results of perianal fisutlas treatment in the Department of General and Colorectal Surgery in Lodz in years 2011-2018.

MATERIALS AND METHODS: Retrospective study was conducted on 655 patients. The data was collected from patients who were hospitalized in the Department of General and Colorectal Surgery at Medical University of Lodz and underwent surgery due to anal fistula.

RESULTS: 655 anal fistula surgeries were included in our study. Intersphincteric fistula occurred in 295 (45%) of patients, transsphincteric in 267 (40,8%), suprasphincteric in 38 (5,8%) and extrasphincteric in 55 (8,4%). Primary fistula was diagnosed in 405 (61,8%) cases, while other surgeries included recurrent fistulas (38,2%). The Kaplan-Meier analysis showed that at 5 years, the healing rate was 0.74 (95% confidence interval 0.68-0.85). Fistulectomy was implemented in 405 (61,8%) cases, while other procedures involved fistulotomy 87 (13,3%), curettage 67 (10,2%) and Hipocrates method 96 (14,6%). Mild or severe faecal incontinence after treatment was found in 19% of patients . 41% of smokers had a recurrent perianal fistulas in 12 months follow-up, while only 25% of non-smokers had a recurrent perianal fistulas (p<0,001).

CONCLUSIONS: Anal fistula is still controversial even among experienced colorectal surgeons. High reccurence rate makes it troublesome and even debilitating for patients. We observed that smokers are more likely to develop recurrent perianal fistula. A better understanding of the pathogenesis of anal fistulas is a fundamental way to help surgeons achieve better treatment outcomes and could also lead to the development of novel therapeutic options.

Mean Platelet Volume, Neutrophil-to-Lymphocyte ratio and Platelet-to-Lymphocyte ratio as an Inflammation Markers Reflecting the Severity of Perianal Abscesses

Author(s): Szymon Krasiński, Marta Głowacka Zofia Sabatowska, Jakub Włodarczyk Medical University of Lodz, Poland Presenting author: Szymon Krasiński Tutor(s): Marcin Włodarczyk, Łukasz Dziki

INTRODUCTION: Perianal abscesses are common anorectal problems. The infection originates most often from an obstructed anal crypt gland, with the resultant pus collection. The most typical symptoms of that disease are severe pain fever and palpable mass in rectal examination. There are some imaging examinations like pelvic CT scan, MRI or trans-rectal ultrasound, which are conducted to specify the location and size of perianal abscess. However, a quick and easily available parameter relating to the severity of abscess could become helpful for clinicians treating patients with perianal abscesses.

AIM OF THE STUDY: To determine if mean platelet volume (MPV), neutrophil lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR), easy available parameters from complete blood count (CBC) test, can be useful inflammatory biomarkers reflecting to the severity of perianal abscesses.

MATERIALS AND METHODS: Retrospective study was conducted on 65 patients. The data was collected from patients who were hospitalized in the Department of General and Colorectal Surgery at Medical University of Lodz. Patient's gender, age, medical diagnosis as well as their chronic diseases and smoking were recorded. Parameters before surgery such as MPV, NLR, PLR and the amount of pus collected from abscess incision were also analyzed. Patients were divided into two subgroups based on amount of drained pus during surgery: 1 group with purulent drainage ≤ 20 mL and 2 group purulent drainage ≥ 20 mL.

RESULTS: Sixty-five patients were enrolled in this study, including 33 patients in first group and 32 patients in second group. The MPV level was significantly higher in the group with greater amount of drainage than in the second group $(10.92\pm1.11 \text{ vs. } 10.1\pm0.8, \text{ p}=0.002)$. NLR and PLR were also elevated in first group $(7.62\pm4.68 \text{ vs. } 5.26\pm2.72, \text{ p}=0.0498; 207.66\pm143.02 \text{ vs. } 162.72\pm114.04 \text{ p}=0.04 \text{ respectively})$.

CONCLUSIONS: The MPV, NLR and PLR were higher in patients with greater amount of purulent drainage. Mentioned parameters reflected the severity of perianal abscess. The MPV, NLR and PLR may thus be an indicators of perianal abscess severity.

Restenosis after Carotid Endarterectomy with Primary Suture

Author(s): Valerija Mosenko Vilnius University, Lithuania Presenting author: Valerija Mosenko Tutor(s): Arturas Mackevicius

Introduction.

Carotid artery endarterectomy (CAE) is a treatment of choice for symptomatic and asymptomatic critical carotid stenosis, showing great promise in reducing mortality and stroke incidences worldwide. The optimal technique of the arterial closure is, however, still under discussion, with both patch angioplasty and primary closure having numerous advantages and pitfalls and the definite evidence is still lacking.

of this study was to evaluate the results of the modified CAE with primary closure technique in our center as well as quantify the before theorized incidence of restenosis more than 8 months after the surgery.

Methods.

2 authors performed a prospective observational study of the patients who underwent CAE with primary closure in Republican Vilnius University Hospital from January 1st, 2014 to December 31st, 2018. The patients were enrolled into the trial during their routine follow - up with their surgeon. During the visit, if given an informed consent, a qualified surgeon performed carotid and vertebral arteries' duplex US scan, documenting the restenosis rates. Patients were also asked to answer the comorbidity assessment questions, which included their smoking habits, history of hypertension and their adherence to antihypertensive medication as well as cholesterol levels and statin therapy, additional related comorbidities were recorded as well.

Results.

Out of 342 patients that underwent CAE with primary closure in the Republican Vilnius university hospital from 2014 to 2018, 125 (36,5%) gave an informed consent to be enrolled into the study. Out of those 6 preocclusions were established during the review of the patient medical files and therefore excluded from the study. All in all, we analyzed the data of 119 patients and 125 CAE with primary suture surgeries. The mean followup time was 35,78 months with S.E. 0,992 (SD 11,046). At the time of a follow-up, 3 (2,4%) carotid artery occlusions were identified and promptly evaluated. Restenosis rates varied: 5,6% of patients had low grade (<50%), 5,6% had moderate grade (50-69%) and 1,6% had high grade (70-99%) stenosis. Based on our data, 80% of patients after carotid endarterectomy with side primary suture will not develop high-grade restenosis or occlusion of the operated carotid artery in approximately 50 months.

Conclusion.

The modified side CAE with primary closure technique, used in our hospital's contemporary practice has shown to be a great alternative to the classical primary suture for CAE technique in regards to reduced restenosis rates. However, more prospective and randomized studies are needed to evaluate this technique in comparison to other CAE closure techniques.

Impact of glioma genetics on outcome in adult patients

Author(s): Eglė Bacevičiūtė
Vilnius University, Lithuania
Presenting author: Eglė Bacevičiūtė
Tutor(s): Robertas Kvascevicius, Jelena Scerbak

Introduction

Glial brain tumors are common and often have poor prognostic outcomes. Current WHO criteria lack objectivity and do not apply to the prognosis for each individual patient. This study highlights the genetic alterations of glial tumors, indicating that they are of potential value in the diagnosis and treatment for the patients.

Aim of the study

This study aimed to evaluate the genes and the residual volume of glial brain tumors, and to determine their influence on patients' prognosis.

Materials and methods

A combined cohort study, performed in Vilnius University Hospital Santaros Clinics, included 127 patients (71% females, 29% males). Neurosurgical patients (2015-2019), who had radiological suspicion, histological and genetical confirmation of a glial brain tumor (G1-4), were involved. Tumors' genetics (karyotype and molecular cytogenetic), histology, progression free survival (PFS), overall survival (OS), outcomes were evaluated. Statistical analysis was performed with SPSS 23.0. Results were considered statistically significant when p<0.05.

Results

Patients undergone 159 surgeries (31% not radical). Those with higher histologic tumor grade had shorter PFS and OS. IDH mutation was associated with longer OS and PFS. 86,5% of G2-3 tumors (n=37) had positive IDH. TERT positive gliomas had better prognosis when the karyotype was triple positive. 84,2% of G4 gliomas (n=64) had negative IDH. Prognosis among IDH negative patients was better with triple negative karyotype. 16 tumors of G2-3 histologic grade had genetical aberrations of G4. Genetic classification correlated better with survival than histologic. G2-3 tumors with 7 trisomy, 9p deletion, 10 monosomy acted like G4. These genes showed worse prognosis, despite IDH status. 9p deletion was more common among G2 IDH positive tumors than G3. Hyperdiploid karyotype was related to shorter PFS. Gliomas with positive IDH were more prone to progression from G2-3 to G4 when had 12q deletion, 22q deletion, 13q deletion, 21q duplication, 17 LOH. The bigger was the residual volume, the shorter the PFS. Residual volume of a tumor had a more important value on prognosis than genetic aberrations.

Conclusions

Residual tumor volume is the most significant factor while predicting the outcome. Specific genetic alternations define a glioma's biological and clinical behavior more accurately than stratifications based solely on histopathology.

The possibilities of endoscopic external and internal neurolysis of peripheral nerves.

Author(s): Ksenia Marshal Pirogov Russian National Research Medical University, Russia Presenting author: Ksenia Marshal Tutor(s): Paskhin D.L.

Introduction: an open method of peripheral nerve neurolysis involves it extended release, which is accompanied by significant tissue damage, aggravation of the scar adhesion process and relapse of compression in 30% of cases. We suppose that the use of hydropreparation of tissues and endoscopic techniques can reduce the invasiveness of such interventions.

Aim of the study: to evaluate the possibility of performing endoscopic external and internal neurolysis of peripheral nerves. Materials and methods: we divided patients into 2 groups: "endoscopically assisted" - we operated 20 patients with compression neuropathies (9 - carpal tunnel syndrome, 5 - fibular canal, 3 - cubital canal, 3 - sciatic nerve compression at the level of the acetabulum). In all cases, a small skin incision was made in the projection of the nerve (from 2 to 5 cm) and its release within the wound. The working space was created due to subcutaneous, subfascial or submuscular tunneling from the wound, which provided the preservation of tissues and sensitive skin branches. Nerve decompression was performed under direct endoscopic control with microsurgical instruments. "full-endoscopic" - we operated 4 patients with post-traumatic neuropathies (2 - axillary nerve damage, 2 - sciatic nerve compression). The operation was carried out through double port approach (working and for endoscope), the working space was created due to the hydropreparation of tissues by pumping physiological saline solution. Arthroscopic instruments - shaver, ablator and tissue elevator were used. Results: in all cases, it was possible to perform decompression, external and internal neurolysis in the required volume. The endoscopic technique made it available to visualize and preserve all nerve branches and vascular formations

during the operation. All patients achieved the necessary clinical effect in the early postoperative period. The small size of surgical approach led to a decrease in pain intensity after the intervention, the need for analgesics and early activation of patients without immobilization of the limb. No complications were observed.

Conclusion: our first experience shows that the endoscopic technique allows to perform external, internal neurolysis of the peripheral nerve in a full, high-quality, minimally invasive way. For a more accurate evaluation, we need to analyze clinical and instrumental data in the long-term period and compare the results of relapse with open techniques.

Indications for emergency abdominal surgeries in older patients 7-year experience of a single centre.

Author(s): Weronika Lebowa Jagiellonian University Medical College, Poland Presenting author: Weronika Lebowa Tutor(s): Jakub Kenig

Introduction: Acute abdomen is one of the most common reasons for emergency hospitalizations in surgical wards. Due to the aging of the population the number of elderly undergoing emergency surgeries is expected to increase. The majority of patients undergoing emergency laparotomy are older adults that carry the highest mortality. Aim: The aim of the study was to analyse the indications for emergency abdominal surgery in patients aged >65 admitted to the Department of General Surgery. Methods: Consecutive patients >65 years, requiring emergency abdominal surgery in 2012-2019 were enrolled into the study. Patients were divided into three age groups (1. 65-74 years, 2. 75-84 years, 3. ≥85 years) between which the frequency of particular reasons for hospitalization was compared. Results: The study sample comprised 685 older patients (female: 57%, male: 43%) with a median age of 76 (from 65 to 102). 35.9% patients were 65-70 years, 47.0% were 71-84 years and 17.1% were ≥ 85 years. In the first and second age group the most frequent indications for surgery were: acute cholecystitis, non-malignant ileus, colorectal cancer complications and acute appendicitis. In the oldest age group (>85 years) the most common were colorectal cancer complications, acute cholecystitis, nonmalignant ileus and complicated diverticulitis. Men were most frequently diagnosed with acute cholecystitis, colorectal cancer complications, and non-malignant ileus. Among women the most common conditions were acute cholecystitis, non-malignant ileus and colorectal cancer complications. The following conditions were statistically more frequent in patients aged ≥ 85 than in younger patients: complications of colorectal cancer (p=0.041), complicated diverticulitis (p=0.025) and complications of peptic ulcer disease (p=0.023).

Conclusions: The reasons for abdominal surgery in geriatric patients differ between age groups and while comparing men and women.

The most common indications for emergency surgery in older patients were acute cholecystitis, complications of colorectal cancer and non-malignant ileus, which together represented 59.5% of all patients. Advances in perioperative care and surgical technique have allowed even frail older patients to be operated electively with acceptable outcomes by experienced hands, which is not always the case in the acute setting.

CANUKA: A promising tool for the prediction of adverse outcomes in patients with non-variceal upper gastrointestinal bleeding.

Author(s): Izabela Karpińska, Joanna Choma Jagiellonian University Medical College, Poland Presenting author: Izabela Karpińska Tutor(s): Magdalena Pisarska-Adamczyk

Introduction:

Non-variceal upper gastrointestinal bleeding (NVUGB) is serious clinical condition still associated with numerous adverse outcomes and significant mortality. There are several risk scores evaluated and widely adopted in clinical practice, however none of them accurately predict all important outcomes of NVUGB. A novel risk stratification score called CANUKA (Canada-United Kingdom-Adelaide) has recently been developed and validated. Evidences suggest it more accurately predicts adverse outcomes of upper gastrointestinal bleeding in comparison with well-established tools.

Aim of the study:

The aim of our study was to validate CANUKA Score as the predictor of adverse outcomes in patients hospitalized for NVUGIB and compare its performance with Rockall Score.

Material and methods:

The retrospective analysis included consecutive patients with NVUGB between January 2013 to January 2020 in a single tertiary referral center. The CANUKA and Rockall scores were calculated for each patient. The primary endpoint was in-hospital mortality. Secondary endpoints were: rebleeding, blood transfusion, need for endoscopic or surgical treatment and prolonged length of hospital stay (LOS; defined as LOS over 7 days). The area under the receiver-operating characteristic curve (AUROC) was used to quantify the diagnostic accuracy of the two predictive models, AUROCs were compared with the Hanley's method. Statistical analysis was performed with Statsoft STATISTICA v.13.

Results:

We analysed 458 patients with NVUGB, 36.7% male and 63.3% female, with a mean age 67.4 years (range 21-101). Most patients (81%) had at least one comorbidity. Mortality rate in the entire group was 11.4%. Rebleeding occurred in 12.2% of patients and 75.3% of them required blood transfusion. The mean LOS reached 5.4 days.

Statistical analysis revealed that CANUKA Score had statistically significant capability of identifying patients who died (AUROC 0.73; p < 0.0001) as well as those with rebleeding (AUROC 0.61; p=0.003), transfusion (AUROC 0.71; p < 0.0001) or prolonged LOS (AUROC 0.66; p < 0.0001). It was also significantly superior to the Rockall Score in predicting the risk of rebleeding (p=0.007), transfusion (p=0.003) or prolonged LOS (p=0.028).

Conclusions:

The CANUKA Score can be used to predict in-hospital mortality, rebleeding, transfusion and prolonged LOS in patients with NVUGB in clinical practice. It seems to be more relevant in rebleeding, need for transfusion or prolonged LOS assessment than Rockall Score in this population. Further external validation of CANUKA Score at the international level is needed.

The first use of phage therapy after lung transplantation in Poland. Was it effective?

Author(s): Kaja Pelar, Klaudia Nowak Medical University of Silesia, Poland Presenting author: Kaja Pelar Tutor(s): Fryderyk Zawadzki, Marta Wajda-Pokrontka Marek Ochman

Introduction: Bacteriophage therapy (BT) uses obligately lytic viruses to treat bacterial infections. They are host-specific and are not harmful to humans. Bacteriophages in many ways are advantageous over antibiotics and have become a promising alternative that gains interest. BT is yet to become an established strategy against resistant strains of bacteria and there are little data regarding the experience in solid organ transplants.

Aim of the study: The aim of the study was to evaluate the influence of lytic phages therapy on the results of sputum cultures and bronchoalveolar lavage (BAL) fluid bacterial cultures in patients undergoing this therapy.

Material and methods:

We describe the use of experimental therapy in eight patients (four men and four women) who underwent lung transplantation (LTx) in the Silesian Center for Heart Diseases (SCCS). Seven of them were diagnosed with Pseudomonas aeruginosa (PA) and one with Staphylococcus aureus infection. The strains were resistant to targeted antibiotic therapy. Three of the patients also had cystic fibrosis (CF).

Bacterial susceptibility to bacteriophages was assessed individually for each patient. Bioethics commission and patient informed consent were obtained. Phages were administered orally and in some cases directly by the intrabronchial catheter during planned bronchoscopy two or three times a day for twenty-two days.

The initial results of therapy were based on microbiological testing.

Results: In four patients who received bacteriophages active against the PA, strains were not detected after the therapy. One possible eradication. Three patients were still infected with PA, one with Staphylococcus aureus. Safety of BT, assessed using clinical/laboratory parameters and observed clinical improvements, was described as appropriate. Adverse events related to BT occurred in one patient - discontinued therapy due to gastrointestinal symptoms. BT was well tolerated and associated with clinical improvement in lung transplant recipients. However, a few years after the therapy was used, 7 patients were diagnosed with PA and Staphylococcus aureus respiratory infections, but with different strains and with different antibiograms.

Conclusion: BT seems to be an effective therapeutic measure and promising alternative to antibiotics. BT helps to achieve the efficacy of therapy when antimicrobial resistance increases. BT was generally well-tolerated and safe.

Spectrometry - is there any correlation between isotopic composition of cancer and its characteristics?

Author(s): Katarzyna Krawczyk, Monika Kabała Medical University of Lodz, Poland Presenting author: Katarzyna Krawczyk Tutor(s): Katarzyna Bogusiak

Introduction

Head and neck cancers make up about 5.5 - 6.2 % of all malignant cancers in Poland. They are often diagnosed at an advanced stage making the radical treatment impossible or very traumatic for the patient. Isotope ratio mass spectrometry is a method of analysis of biological material through measuring its isotopic composition. New studies indicate that it is a promising way of estimating cancer's advancement, prognosis and diagnosing it at an early stage of the disease.

Aim of the study

Analysis of contents of carbon and nitrogen in squamous cell carcinoma of oral cavity compared to cancer's characteristics.

Material and methods

The researched group consisted of 18 patients of Maxillo-Facial Surgery Department of Medical University of Lodz. They were surgically treated due to malignant cancer of oral cavity. Clinical control examination was always carried our 6 months after surgery.

10 samples

from each patient were collected - 4 specimens of the tumor, 4 of the tumor's margin and 2 of the healthy tissue (at least 4 centimiters away from the margin of tumor). Six samples were kept in the fridge at -70 degree Celsius, lyophilized and then analysed using the method of isotope ratio mass spectrometry to assess the isotopic content of carbon and nitrogen. Other four (2 tumor samples and 2 margin samples) were put into formalin and underwent patomorphological examination. At the end we compared differences in isotopic composition of tumor's and margin's tissues, clinical and patomorphological characteristics.

Results

The average content of nitrogen was the highest in the tumor's tissue and equaled 12%; medium in the margin - 10%; and lowest in the healthy tissue with the amount of 8%. When it comes to carbon, the result was the exactly opposite. The highest content of carbon was observed in the healthy tissue - 57%, medium in the margin - 51% and the lowest in the cancerous tissue - 46%. The highest average nitrogen to carbon ratio [N]/[C] was found in the tumor's tissue (0,271982) and the lowest one in the healthy tissue (0,153395). P values of all of these observations were lower than 0,05.

Conclusions

Our results confirm that the analysis of the isotopic composition of cancer tissue obtains information on biochemical processes and metabolism of affected cells which at this state is abnormal.

There is a correlation between isotopic composition of the cancer and its characteristics.

Congenital and acquired anosmia - multi-levelled comparative analysis.

Author(s): Aleksandra Romanowicz, Krzysztof Kwaśniewski Medical University of Gdańsk, Poland Presenting author: Aleksandra Romanowicz Tutor(s): Wojciech Brzoznowski

Introduction: Anosmia is a complete lack of smell. It divides into congenital and acquired anosmia.

Purpose of the study: Comparison between congenital and acquired anosmia in the field of anatomy, surgery, diagnostics and quality of life.

Methods: 331 people took part in the questionnaire surveys - 155 with congenital and 176 with acquired anosmia. They were asked about diagnostics, surgeries of the head and neck and a quality of life. The chi-square test with the significance level of 0.05 was used for statistical evaluation.

Results: With the significance level of 0.05 chi-square test showed that there is significant statistically difference between two groups of reviewed patients. 90% of patients with congenital anosmia and 61% of patients with acquired anosmia showed disorders of the taste (p<0.05). Average age of congenital anosmia diagnosis is 9,39. Surgeries of head and neck had passed 9% of patients with congenital anosmia and 17% of patients with acquired anosmia (p<0.05). Patients with acquired anosmia gave infections as the most common cause of the anosmia (43%), then head injuries (26%) and surgeries of head and neck (5%). Most often anosmia is recognized by otolaryngologists 37%, general practitioners 33% and neurologists 15%. The study showed differences in the reception of stimuli from the trigeminal nerve which is present in the olfactory epithelium -59% of patients with congenital anosmia and 23% of patients with acquired anosmia senses stimuli (p<0.05). 8% of patients with congenital anosmia and 30% of patients with acquired anosmia evaluated their quality of life equal or below 5 points on a subjective scale of 1 to 10 points.

Conclusion: There is plenty of significant statistically differences between congenital and acquired anosmia. Surgeries of head and neck rarely are cause of acquired anosmia, the most common are infections and head injuries. Imaging tests usually do not show any changes. Quality of life is lower among patients with congenital anosmia than among patients with acquired anosmia.

Causes of deaths due to multitrauma injuries: analysis of the material of the Multitrauma Centre from 2017 to 2019.

Author(s): Dawid Ciechanowicz, Jan Kozowski Pomorski Uniwersytet Medyczny, Poland Presenting author: Natalia SamojÅ,o Tutor(s): Andrzej Żyluk

Introduction: Multitrauma is defined as injury involving two or more different body parts, with a condition that at least one of these injuries is life-threatening. They represent serious traumas, requiring treatment in the intensive care units and frequently surgical intervention

Aim of study: The aim of the study was epidemiological and clinical analysis of the causes of death of patients treated in Multitrauma Centre (MC) of the University Teaching Hospital no 1 in Szczecin during 3 years (2017-2019).

Materials and methods: Clinical material comprised medical notes of 32 patients, 19 men (59%) and 13 women (41%), aged 63 years who suffered multitrauma injuries. The time of death since admission to MC, the main cause of death, the spectrum of injuries sustained, the area of the body and the method of treatment (conservative or surgical) were analyzed.

Results: The most common cause of death was a traffic accident - 23 cases (72%), a fall from height - 7 (22%) and another mechanism - 2 (6%). The trauma that was the direct cause of death was most often craniocerebral trauma - 17 patients (53%), pelvic or spinal bone injury - 5 (16%), chest and pelvis - 3 (9%), chest in 2 (6 %), and in the remaining 5 (16%) the cause of death was injuries to several parts of the body. The cause of death from pelvic injury was most often unmanageable retroperitoneal bleeding. The most common components of multi-organ trauma were bone injuries (spine, pelvis, limbs) - 28 cases (87%), head injuries - 25 (78%), chest - 24 (75%) and abdomen - 17 (53%). Eighteen patients (56%) required surgical treatment; the most common were head injuries (craniotomy) - in 11 patients (34%), abdominal (laparotomy) - in 10 patients (31%). Five patients (16%) underwent endovascular surgery - pelvic embolization. Twelve patients (38%) died within the first 2 days of admission to CLUW, 5 (16%) within the first week, and 15 within one week of admission.

Conclusion: The results of the analysis indicate that head injuries and pelvic fractures with retroperitoneal space bleeding pose the greatest threat to life in patients with multiorgan injuries.

Skin ulcers – growing problem?

Author(s): Oliwia Kwaśniewska, Jakub Włodarczyk Medical University of Łódź, Poland Presenting author: Oliwia Kwaśniewska Tutor(s): Marcin Włodarczyk

Introduction

Skin ulcers are non-healing or poorly healing full-thickness wounds, forming as a result of tissue breakdown. They are a common complication of metabolic disorders (mostly poorly controlled diabetes), poor circulation in general, infections, inflammation or cancer. Due to its high frequency, difficulties in therapy and chronic pattern skin ulcers remain a significant social, epidemiological and clinical problem. Lack of standardized diagnostic criteria and limited funding makes the treatment troublesome. Without prompt and adequate care performance, a skin ulcer may require hospital management and further severe complications (such as deep infection, gangrene and need of amputation) are likely to appear.

Aim of the study

The goal of this work is to assess and present the situation of polish population considering the problem of skin ulcers epidemiology, surgical management and funding in 2011-2015.

Material and methods

This was a cross-sectional analysis of polish population focused on surgical management of skin ulcers. To evaluate the prevalence and indirect healthcare costs associated with this condition, data accumulated by Polish National Health Fund in the years 2011-2015 were studied.

Results

In 2015 in Poland 67 804 patients were treated due to skin ulcers. The overall cost of medical care amongst this group was estimated at almost 73 million PLN. 79,1% (53 623) of individuals were treated in outpatient specialist care and only 20,6% (13 993) of them needed hospitalization. At the same time, expenses associated with hospital stay were nearly seven times higher than the outlays for outpatient care (63 704 353,41 vs 9 229 053,60). In addition, the number of hospitalization due to skin ulcers reveals still a rising tendency. A comparison between years: 2015 and 2011 shows an increase of approximately 17,7% (16 483 vs. 14 001) with a simultaneous growth of value of contracts for skin ulcers in hospital treatment from 51 million PLN to nearly 63 million PLN. The collected data indicate more than three times higher values of benefits settled in the age group over sixty years of age (49 million PLN) compared to the group of patients 0-60 years (14.7 million PLN).

Conclusions

The therapy of difficult-healing chronic wounds is a huge clinical problem and an increasing challenge for modern medicine. The number of patients with skin ulcers among polish society is constantly growing and a vast majority of hospitalized patients require surgical intervention. A significant disproportion between the available financial resources allocated to the implementation of treatment services and the current demand for these methods is the main problem of proper skin ulcers management. The problem mentioned above results in under-utilisation of the potential of highly qualified medical staff and inability to provide patients with adequate access to modern medical equipment. Considering the scale of the issue, a profound reevaluation of present treatment and financing strategies should be imposed.

Postoperative quality of life in patients after spinal intradural extramedullary tumor resection

Author(s): Krisjanis Purins, Liva Strucinska Mikołaj Skrzypczak Riga Stradins University, Latvia Presenting author: Krisjanis Purins Tutor(s): Kaspars Auslands

Introduction.

Intradural extramedullary tumors compile 2/3 of all primary intraspinal neoplasms. Analysis of postoperative results in patients also considering their preoperative neurological and functional status would help to improve tactics and algorithms, predict outcome before surgery.

Aim of the study.

Our aim of the study was to evaluate outcome in patients undergoing surgical treatment for spinal intradural extramedullary tumor and to analyze pain intensity, symptoms, quality of life, complications and neurological disturbances according to the localization of the tumor, type and surgical approach.

Materials and methods.

Retrospectively collected data from 49 patients with intradural extramedullary tumors who underwent surgery were analyzed and compared in relation to pain intensity in the back and limb, surgical approach, neurological deficit and patient-rated The Core Outcome Measure index (COMI score) up to 60 months after surgery. Data were analyzed using Word Excel and IMB SPSS 22.0.

Results.

Study included 49 patients (80% were female and 20% men). Average age was 57.5 years. Regarding location-In 27(55%) spinal tumor was thoracic, 15(31%) cervical, 7(14%) lumbar. Histological examination revealed, that in 25(51%) cases tumor type was meningioma, schwannoma 15(31%), myxopapillary ependymoma 5(10%), neurofibroma 4(8%). In majority 23(52%) of all the cases surgical method was hemilaminectomy, in 21(48%) laminectomy, with no statistical difference in outcome between those methods. Complications after the surgery were found in 8(23%) patients. Patients complained about back pain in 17(42%), 10(25%) had pain which radiate to extremity, 8(20%) patients have paresthesia, 5(12.5%) have no complain after surgery. There was found statistically significant difference between tumor localization and motor function decrease in arm and limb. (p < 0.01). There was statistically significant difference between pain intensity in legs and tumor localization after surgery. (p < 0.01). Mean postoperative COMI score was 39 points with higher point level 45 for lumbar part(maximal possible point level 60 for cases without functional deficit).

Conclusion

Pain level and neurological function disturbances after surgery were higher for patients with cervical and thoracic tumors. COMI scores were better for patients with lumbar tumors. 85% of patients were satisfied with their quality of life up to 60 months after surgery.