18th Bialystok International Medical Congress

for Young Scientists

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THE BOOK OF ABSTRACT

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PEDIATRIC AND NEONATOLOGY

Title: Perceptions of Vaccine Safety and Infectious Disease Danger among Parents: A Cross-Sectional Survey in Poland

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INTRODUCTION

Median ratings for vaccine safety and disease danger were both 4 out of 5 (IQR 3-4). Linear models revealed an inverse relationship between perceived vaccine risk and disease danger (Intercept = 1.59, p < .001), especially when comparing individual vaccines to their respective diseases (e.g., COVID-19: Intercept = 1.13, p < .001). Multivariate binomial logistic regression showed that participants without problems discussing vaccines with doctors (p = 0.043) and those supporting combined vaccines for children (p = 0.030) perceived vaccines as safer. Conversely, reliance on popular science books (p = 0.011), belief in vaccine-autism causation (p < .001), and preference for natural immunity over vaccination (p < .001) decreased perceived safety (Intercept = 1.40, p = 0.027). Significant and large effects were observed between supporters and opposers of childhood vaccination (p < .001, $\eta^2 = 0.41$) and between perceptions of vaccine danger and no vaccination risk (p < .001, $\eta^2 = 0.33$), with the latter groups consistently rating lower (median: 2, IQR: 1-3).

AIM OF THE STUDY

Assessing the perceived vaccine safety and infectious disease danger ratings of parents in Poland and finding predictors of attitudes and deficits to improve vaccine education.

MATERIALS AND METHODS

A 17-question questionnaire assessed the participant's general knowledge and attitude to vaccines and infectious diseases and demographic factors. Vaccine safety and disease danger perceptions were evaluated using a 5-point Likert scale with 1 indicating not safe for vaccines and not dangerous for diseases, and vice versa. Surveys were distributed to parents of patients admitted to the Department of Paediatric Infectious Diseases in the Medical University of Bialystok and shared online in Facebook groups across Poland between 2020 and 2022. Responses were compiled into a Microsoft Excel database and statistically analysed with R.

CONCLUSIONS

Many participants expressed uncertainty regarding vaccine knowledge, and our logistic regression model identified misconceptions as good predictors of lower vaccine safety ratings. Improved access to medical knowledge and clear and simple vaccine education is crucial in addressing irrational vaccine fears.

PEDIATRIC AND NEONATOLOGY

Title: Plasma interleukin-8 concentration in response to moderate burns in pediatric patients.

Author(s): Wiktoria Jurczykowska, Kinga Chomicka, Adrian Rzymski,

Agata Pieńkos

Tutor(s): dr n.med. Marzena Tylicka

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INTRODUCTION

Burn injuries are the most frequent injuries in the world which result in metabolic problems, inflammatory response,inefficient energy use and other physiological alternations which may cause organ and system dysfunction. Interleukins are important mediators responsible for immune monitoring therefore interleukin-8 is produced mainly by macrophages after an injury and is involved in the regulation of inflammatory response to tissue damage

AIM OF THE STUDY

The aim of this study was to evaluate the plasma interleukin-8 (IL-8) concentration in pediatric patients with moderate burns (second-degree burns, partial thickness) and investigate the changes in IL-8 concentration within two days after thermal injury.

MATERIALS AND METHODS

22 patients aged 2 years to 14 years (scalded by hot water) who were managed at the Department of Pediatric Surgery with moderate burns were included in the study. Blood samples were collected on the first and the second day after the thermal injury had occurred. 15 healthy pediatric patients admitted for planned inguinal hernia repair served as a control group. IL-8 concentrations in patients with moderate burns and the control group were measured by means of the Enzyme-Linked Immunosorbent Assay (ELISA) method.

CONCLUSIONS

This study demonstrated that interleukin-8 may be an important mediator of inflammatory response to moderate burns in pediatric patients. Expression of IL-8 on the second day after burn injury may suggest the important role of this protein in the wound healing process. Interleukin-8 concentration was statistically significantly higher on the second day than on the first day after thermal injury (Me2nd:15.080 pg/mL vs Me1st:7.517 pg/mL; p=0.0311). There were no significant differences in plasma IL-8 concentration between children with moderate burns the first day after injury and the control group (Me1st:7.517 pg/mL vs MeCg:7.986 pg/mL; p>0.05). However significantly elevated plasma IL-8 concentration was observed in children with moderate burns the second day after injury compared to healthy individuals. (Me2nd:15.080 pg/mL vs MeCg:7.986 pg/mL; p=0.000)

PEDIATRIC AND NEONATOLOGY

Title: An observational study of 10 cases with a prenatal suspicion of teratoma.

Author(s): Małgorzata Kamińska ,Aleksandra Bartoś, Maria Orzeł

Tutor(s): Beata Borek-Dzięcioł MD PhD

Affiliation(s):

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INTRODUCTION

Teratomas are tumors composed of low-differentiated cells or tissues from all three germ layers. They account for 3% of all tumors in the pediatric population. As many as 70% of them are located in the sacrococcygeal region and are the most common tumors in neonates. Teratomas causing symptoms prenatally are associated with a worse prognosis than those occurring after birth. The perinatal mortality rate for prenatal diagnosis is up to 50%

AIM OF THE STUDY

The aim of this study is to compare the accuracy of prenatal teratoma suspicion with histological confirmation after birth. The authors present an analysis of 8 newborns with congenital teratomas. In addition maternal morbidity, the course of pregnancy and delivery, as well as surgery and subsequent development of children were analysed in the confirmed cases.

MATERIALS AND METHODS

We retrospectively analysed 10 neonates with prenatally suspected teratomas born and treated between 2019 and 2023. Two newborns with vascular malformations were excluded leaving us with 8 patients with histopathologically confirmed teratomas (4 female, 4 male). Of these 5 were diagnosed with sacrococcygeal tumors 2 with a lumbosacral and 1 with a craniofacial teratoma. All tumors were characterised by significant size, the largest being 25x15 cm. The mean gestational age at birth was 28+3/7";"The initial diagnosis was made prenatally in all children. Each child was delivered by caesarean section due to fetal anomaly and additional problems (PROM- 4 cases, maternal mirror syndrome-1, intrauterine infection- 1, threatened fetal asphyxia- 1). 6 of 8 patients were operated on, 2 died on day 1 of life. On average surgery was performed on 5th day of life. Histopathologically of the 6 children operated on mature teratoma was diagnosed in 4 cases 1 case with immature and 1 with a borderline tumor. A complete tumor resection was confirmed in 5 cases ultrasound was recommended every 3 months for 1 child. The average length of the NICU stay was 52 days. Of all children who survived 1 required transport to another centre. Other patients were discharged home in good general condition**CONCLUSIONS**

The initial diagnosis was made prenatally in all children. Each child was delivered by caesarean section due to fetal anomaly and additional problems (PROM- 4 cases maternal mirror syndrome-1 intrauterine infection- 1 threatened fetal asphyxia- 1). 6 of 8 patients were operated on 2 died on day 1 of life. On average surgery was performed on 5th day of life. Histopathologically of the 6 children operated on mature teratoma was diagnosed in 4 cases 1 case with immature and 1 with a borderline tumor. A complete tumor resection was confirmed in 5 cases ultrasound was recommended every 3 months for 1 child. The average length of the NICU stay was 52 days. Of all children who survived 1 required transport to another centre. Other patients were discharged home in good general condition The prognosis for a newborn with a teratoma is inauspicious and depends on the size of the tumor the time of the diagnosis and the completeness of surgical resection. As shown in this analysis if the pregnancy and perioperative period go well the prognosis is favorable Teratomas are tumors composed of low-differentiated cells or tissues from all three germ layers. They account for 3% of all tumors in the pediatric population. As many as 70% of them are located in the sacrococcygeal region and are the

most common tumors in neonates. Teratomas causing symptoms prenatally are associated with a worse prognosis than those occurring after birth. The perinatal mortality rate for prenatal diagnosis is up to 50%.";"The aim of this study is to compare the accuracy of prenatal teratoma suspicion with histological confirmation after birth. The authors present an analysis of 8 newborns with congenital teratomas. In addition, maternal morbidity, the course of pregnancy and delivery as well as surgery and subsequent development of children were analysed in the confirmed cases

PEDIATRIC AND NEONATOLOGY

Title: The changing face of Enteroviruses in Pediatrics Meningitis: Pre and Post COVID-19 pandemic comparison

Author(s): Kiara Sequeira

Tutor(s): Dr n. med. Toczyłowski Kacper

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Enteroviruses are common in summer-fall season 82 confirmed cases in 2023 were recorded.

AIM OF THE STUDY

Aims to analyze the impact of the COVID-19 pandemic on enterovirus prevalence in pediatric meningitis cases.

MATERIALS AND METHODS

Confirmed PCR and isolation test results from 2023 and published paper on enteroviruses in 2020.";"Coxsackie B5 highest in 2020 while E9 in 2023.

CONCLUSIONS

"The difference in which enteroviruses are highest pre and post COVID-19 pandemic.

Title: The characteristics of neonates born with Edwards and Patau's syndrome in Department of Neonatology and Neonatal Intensive Care

Author(s): Milena Łapińska ,Weronika Roszkowska, Aleksandra Stasiewska

Tutor(s): Prof. Monika Kamianowska

Affiliation(s): Department of Neonatology and Neonatal Intensive Care in Bialystok

Tutor(s) Affiliation(s):

INTRODUCTION

Edwards and Patau syndromes are chromosomal aneuploidies with very high neonatal and infant mortality, characterized by the occurrence of trisomy 18 and 13, respectively. Edwards syndrome occurs in 1 per 6000-8000 live births and Patau's syndrome – in 1 per 10000-20000 live births.

AIM OF THE STUDY

He aim was to analyze the characteristics of the neonates with Edwards and Patau syndromes hospitalized in the Department of Neonatology and Neonatal Intensive Care of the University Clinical Hospital in Bialystok between 2017 and 2023

MATERIALS AND METHODS

Medical histories of neonates with Edwards and Patau syndromes hospitalized in the Department during the study period were analyzed. Special attention was paid to the neonates' characteristics and prenatal diagnosis of the trisomy disorders.

CONCLUSIONS

In the years 2017-2023, 15386 neonates were hospitalized in the Department. 3 of them (0.02%2:10000) were born with phenotypic features of Patau's syndrome and 5 of them with phenotypic features of Edwards syndrome (0.03%3:10000). Their median gestational age and birth weight were: 38 weeks and 2255.00 g respectively. 7 neonates (87.5%) had birth weight <10th percentile. The median 1st minute Apgar score was 5. 6 neonates (75%) were born in moderate asphyxia, 2 children (25%) – in severe asphyxia. Respiratory and cardiovascular disorders occurred in all neonates 7 of them (87.5%) had congenital heart defects. Other congenital defects were diagnosed in 50% of children. 4 neonates (50%) died during hospitalization and 4 children (50%) were discharged from the Hospital 8-24 days after birth and transferred to a children's hospice or another hospital. In 7 neonates (87.5%), phenotypic features of Edwards or Patau's syndrome were suspected in prenatal examination. Parents agreed to perform amniocentesis in 85.71% of these cases (N=6). The median mother's age was 36 years.The occurrence of Edwards and Patau syndromes in the Department were higher than their estimated live birth prevalences most likely due to specific nature of the tertiary care unit. Prenatal diagnosis has shown high effectiveness in diagnosing these lethal defects. Trisomy 13 and trisomy 18 were associated with high mortality during hospitalization. Parents of neonates discharged from the Department needed the support of a home hospice or other hospital.

PEDIATRIC AND NEONATOLOGY

Title: "Shear wave elastography in ultrasound assessment of thyroid lesions among children and adolescents

Author(s): Maria Obrycka, Katarzyna Anikiej, Miłosz Nesterowicz, Magdalena Skorupska, Filip Bossowsk

Tutor(s): Artur Bossowski, Hanna Borysewicz-Sańczyk, Pr.dr hab. n. med. Janusz Bogdan Dzięcioł, Beata Sawicka, Justyna Michalak

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Tutor(s) Affiliation(s): Frist Department of General and Endocrine Surgery

INTRODUCTION

Shear wave elastography (SWE) is a diagnostic method enabling a non-invasive investigation of tissue stiffness which uses the pressure exerted by an ultrasound wave. Since the mechanical properties of tissue affected by particular pathologies change, SWE allows us to visualize and differentiate between them. This method has a confirmed effectiveness in distinguishing between benign and malignant thyroid tumors in adults. However ,there is still little research on the application of SWE in pediatric patients' diagnostics.

AIM OF THE STUDY

Our research aimed to evaluate the assessment of the SWE based on Young's modulus in the management of focal thyroid nodules in children and adolescents.

MATERIALS AND METHODS

The study included 116 patients (81 girls and 35 boys) with 168 thyroid nodules who underwent fine needle biopsy after SWE.

CONCLUSIONS

In the case of 147 focal nodules the biopsy results indicated that the lesions were benign – II according to the Bethesda scale. 15 cases were defined as category III 1 as – IV, and in 5 cases – V according to the Bethesda scale. TSH and fT4 levels, as well as the size of lesions, recent reports have shown that the risk of malignancy is much lower than previously thought. In some cases, cholecystectomy should be performed especially in symptomatic patients. The management of asymptomatic patients is

controversial and should be carefully analyzed and planned, including the patient The "porcelain" follicle remains a clinical challenge due to its rarity. It is often diagnosed accidentally when tests are performed for another reason. Although it is most often asymptomatic, this condition cannot be ignored and requires close observation.Surgery, vesicle, porcelain.Authors affiliation and tutor affiliation: Frist Department of General and Endocrine Surgery

Title: Understanding and Addressing Congenital Toxoplasmosis Risk Factors in Pregnant Women: A Pilot Study in Northeastern Poland

Author(s): Karmakar Deepanshu

Tutor(s): Dr. Kacper Toczyłowski

Affiliation(s): Department of Pediatric Infectious Diseases Medical University of Bialystok

Tutor(s) Affiliation(s):

INTRODUCTION

Toxoplasmosis caused by the Toxoplasma gondii parasite, spreads through contaminated food or water and contact with cat feces. In pregnant women its transmission to the fetus can lead to serious health complications. Consequently congenital toxoplasmosis presents a significant risk to pregnant women necessitating heightened awareness, preventive measures and early detection

AIM OF THE STUDY

This study aims to analyze pregnancy-associated risk factors for toxoplasmosis and pinpoint knowledge gaps. By comprehending transmission factors and identifying knowledge deficiencies targeted interventions can be developed to alleviate the burden of congenital toxoplasmosis in Poland.

MATERIALS AND METHODS

An anonymous survey was administered to women with known serological status to collect data on toxoplasmosis risk factors and knowledge gaps during pregnancy. Using a 5-point Likert scale the survey assessed knowledge, preventive measures, transmission awareness, dietary habits, and hygiene practices; additionally, demographic characteristics were collected.

CONCLUSIONS

Our findings suggest that seropositive women tend to taste raw meat more frequently before cooking compared to seronegative women (median 2; IQR, 1-3 vs. median 1; IQR, 1-2; p=0.02). They also exhibit a heightened interest in toxoplasmosis compared to seronegative respondents. Furthermore, a significant proportion of participants associate toxoplasmosis with cat ownership, perceiving it as hazardous as consuming raw seafood or unwashed vegetables. Cleaning cat litter was deemed equally dangerous to consuming raw meat.Our study highlights significant associations between toxoplasmosis seropositivity and certain behaviors, particularly the tasting of raw meat while cooking among pregnant women in northeastern Poland. Moreover, prevalent misconceptions regarding toxoplasmosis transmission, such as the exaggerated risk of cat ownership, underscore the need for targeted educational interventions. Addressing these misconceptions is crucial to ensure pregnant women adopt effective preventive measures. By identifying these knowledge gaps and risk factors our findings provide a foundation for targeted interventions to mitigate the burden of congenital toxoplasmosis in Poland. Toxoplasmosis caused by the Toxoplasma gondii parasite spreads through contaminated food or water and contact with cat feces. In pregnant women its transmission to the fetus can lead to serious

health complications. Consequently, congenital toxoplasmosis presents a significant risk to pregnant women, necessitating heightened awareness, preventive measures and early detection . This study aims to analyze pregnancy-associated risk factors for toxoplasmosis and pinpoint knowledge gaps. By comprehending transmission factors and identifying knowledge deficiencies targeted interventions can be developed to alleviate the burden of congenital toxoplasmosis in Poland

PEDIATRIC AND NEONATOLOGY

Title: Assessment of the implementation of mandatory vaccinations in the Department of Neonatology and Neonatal Intensive Care

Author(s): Gabriela Szpica, Aleksandra Kamianowska, Angelika Jakubas

Tutor(s): Prof. Monika Kamianowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

In Poland law requires neonates to be vaccinated against tuberculosis and hepatitis B virus. Despite that some children remain unvaccinated during their hospitalization in the neonatology unit.

AIM OF THE STUDY

he aim was to analyse the implementation of mandatory vaccinations in the Department of Neonatology and Neonatal Intensive Care of the University Clinical Hospital in Bialystok between 2018 and 2023.

MATERIALS AND METHODS

he retrospective study included medical histories of 1635 neonates that didn’t receive vaccination against tuberculosis and/or hepatitis B virus. Neonates who died (N=59) or were discharged from the hospital before vaccination at the mother's request (N=12) were excluded from further analysis.

CONCLUSIONS

A high percentage of mothers did not consent to vaccination of their child; major abnormalities of the perinatal period did not influence their decision. The decision to not consent for vaccination of a child was more often made by mothers of mature age and multiparous women.";"In Poland law requires neonates to be vaccinated against tuberculosis and hepatitis B virus. Despite that some children remain unvaccinated during their hospitalization in the neonatology unit.";"The aim was to analyse the implementation of mandatory vaccinations in the Department of Neonatology and Neonatal Intensive Care of the University Clinical Hospital in Bialystok between 2018 and 2023.";"The retrospective study included medical histories of 1635 neonates that didn’t receive vaccination against tuberculosis and/or hepatitis B virus. Neonates who died (N=59) or were discharged from the hospital before vaccination at the mother's request (N=12) were excluded from further analysis. ";"Out of 1564 unvaccinated neonates 630 (403%) were not vaccinated due to the lack of mother’s consent 934 (597%) due to medical contraindications. Unvaccinated term neonates accounted for 5.00% of all term neonates unvaccinated late preterm neonates (gestational age (GA): 34-36 weeks) accounted for 3.46% of all late preterm neonates and other unvaccinated preterm neonates accounted for 2.70% of all children from their group. Further analysis concerned the neonates not vaccinated due to the lack of mother’s consent. This group consisted of 579 term neonates (91.90%) 38 late preterm neonates (6.03%) and 13 other preterm neonates (2.06%). 573 neonates were born in good condition (90.95%) 43 had moderate asphyxia (6.83%) and 12 had severe asphyxia (1.90%).[rest in the "Abstract" section]";"A high percentage of mothers did not consent to vaccination of their child; major abnormalities of the perinatal

period did not influence their decision. The decision to not consent for vaccination of a child was more often made by mothers of mature age and multiparous women, neonate, vaccination ,tuberculosis ,hepatitis B"

PEDIATRIC AND NEONATOLOGY

Title: One step away from anaemia- iron deficiency in children with newly diagnosed celiac disease.

Author(s): Julia Wiatr, Nicole Klemendorf, Izabela Zajkowska

Tutor(s): Prof. Beata Cudowska, Prof. Dariusz Lebensztejn

Affiliation(s): Department of Pediatrics ,Gastroenterology, Hepatology, Nutrition, Allergology and Pulmonology"

Tutor(s) Affiliation(s):

INTRODUCTION

Celiac disease (CD) is an immune-mediated disease involving the small bowel mucosa that is triggered by the ingestion of gluten in genetically predisposed subjects. Villus atrophy and duodenum inflammation can result in malabsorption of some nutrients and lead to deficiency of iron, vitamins, minerals etc.

AIM OF THE STUDY

was to determine the clinical significance of iron deficiency (ID) in children with newly diagnosed celiac disease.

MATERIALS AND METHODS

Material and methods: The retrospective study included 87 children (62 girls and 25 boys) aged 1.5 to 17.5 years (mean 8.6 ± 4.8) hospitalized in the pediatric gastroenterology unit in 2021-2023 due to symptoms from gastrointestinal tract and with a newly diagnosed celiac disease according to the ESPGHAN criteria based on the results of screening serological test as antitissue-transglutaminase (anty-tTGA IgA). Children with infections, other diseases from gastrointestinal tract hematological disorders were excluded from the study. Subjects were reviewed for clinical symptoms co-morbidities, anthropometric ,parameters ,previous treatment. Hemoglobin (HGB), mean corpuscular volume (MCV), serum iron and serum ferritin concentration were analyzed and subjected to statistical analysis

CONCLUSIONS

Iron deficiency anemia (IDA) with decreased HGB (mean 9.9 ± 0.8 g/dl) and ferritin concentration (mean 14.9 ± 1.4 ng/ml) was confirmed in 6 children (6.9%) while iron deficiency without anemia (IDWA) in 24 children (27.6%). The mean value of serum ferritin concentration was significantly lower in these patients than in the other children with CD (11.6 vs 41.6 ng/ml .Malnutrition (BMI < 3. percentile) was stated in 37 children (43%). Clinical symptoms of ID were registered in 7 children (8.3%) and they were previously treated unsuccessfully with iron preparations.

PEDIATRIC AND NEONATOLOGY

Title: A population-based preventive study of early detection of diabetes type 1 in asymptomatic children within the Podlaskie Voivodeship

Author(s): Agata Kolanek, Miłosz Nesterowicz, Katarzyna Anikiej, Magdalena Skorupska, Filip Bossowski

Tutor(s): prof. dr hab. n. med. Artur Bossowski, dr n. med Klaudyna Noiszewska, dr n. med Milena Sztabkowska-Jamiołkowska, dr n. med Agnieszka Polkowska, dr n. med Aneta Zasim, dr n. med Angelika Buczyńska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Diabetes type 1 (DT1) is an autoimmune disorder characterized by the destruction of pancreatic beta cells leading to insufficient insulin production and consequent hyperglycemia. The disease may be diagnosed at nearly any age though peaks in presentation occur between ages 5 to 7 and around puberty. Children typically present polyuria, polydipsia and weight loss spanning from days to months. In cases of delayed diagnosis additional symptoms may manifest. A subset of patients may develop ketoacidosis, a life-threatening condition with the potential to lead to coma. Sustained hyperglycemia and other metabolic consequences of insulin deficiency can precipitate long-term complications although infrequent during childhood including retinopathy, gastroparesis or progressive renal failure. However early diagnosis and treatment of DT1 are essential to prevent complications later in life.

AIM OF THE STUDY

The project aims to identify heightened-risk individuals with the presence of anti-pancreatic antibodies within asymptomatic children residing in the Podlaskie Voivodeship to prevent acute complications of DT1 and to reduce the likelihood of chronic complications

MATERIALS AND METHODS

The population-based study encompassed 3000 participants residing in the Podlaskie Voivodeship ranging in age from 1 to 9 years. Blood samples were obtained from each participant and subsequently frozen. Each sample underwent screening using a 3-screen RSR ELISA test. Further analysis was conducted only on the positive samples to detect specific antibodies ,such as GAD, anti-ZnT8, anti-IA2 and IAA. The results were relayed to the Department of Pediatrics, Endocrinology, Diabetology with Cardiology Divisions in Białystok and subsequently communicated to the patients along with instructions delineated in the follow-up form.

CONCLUSIONS

After examining all children a positive screening result was obtained in 85 (3.46%) of the subjects. Additionally, 0.44% had two and 0.65% had two or more antibodies, which gives the highest risk of

developing DT1 among the examined children.
";"Diabetes type 1 (DT1) is an autoimmune disorder characterized by the destruction of pancreatic beta cells, leading to insufficient insulin production and consequent hyperglycemia. The disease may be diagnosed at nearly any age though peaks in presentation occur between ages 5 to 7 and around puberty. Children typically present polyuria, polydipsia and weight loss spanning from days to months. In cases of delayed diagnosis, additional symptoms may manifest. A subset of patients may develop ketoacidosis a life-threatening condition with the potential to lead to coma. Sustained hyperglycemia and other metabolic consequences of insulin deficiency can precipitate long-term complications although infrequent during childhood including retinopathy, gastroparesis or progressive renal failure. However early diagnosis and treatment of DT1 are essential to prevent complications later in life.

SESSION VIII

Title: Craniofacial reconstructions with free fibular flaps in pediatric patients – outcomes.

Author(s): Dominika Lech, Jeremi Matysek, Cyprian Strączek

Tutor(s): dr n. med. Krzysztof Dowgierd, prof. dr hab. n. med. Łukasz Krakowczyk

Affiliation(s): Scientific Circle of Craniofacial Disorders and Pediatric Maxillofacial Surgery

Tutor(s) Affiliation(s):

INTRODUCTION

As awareness of craniofacial pathologies grows the significance of microsurgical reconstructions in pediatric patients becomes increasingly pronounced. These procedures are essential for facilitating the seamless integration of young individuals into society, ensuring optimal functionality and quality of life. Among the various techniques available microvascular free fibular bone flaps have garnered attention for their efficacy in craniofacial reconstructions

AIM OF THE STUDY The aim of this study is to present the results of an analysis regarding the microvascular free fibular flap reconstruction within the craniofacial region in pediatric patients.

MATERIALS AND METHODS

This investigation encompasses an analysis focusing specifically on patients who underwent fibular bone graft transplantation. Data collection was systematically executed at the Maxillofacial Surgery for Children and Young Adults Division within the Head and Neck Clinic at the Regional Specialized Children's Hospital in Olsztyn Poland. The investigation targets individuals aged up to 22 years encompassing a total of 47 procedures. Parameters included in analysis were gender age etiology recipient site and complications

CONCLUSIONS

The overall success rate was 851%. The etiological breakdown included congenital conditions (25.5%) oncological reasons (63.8%) and iatrogenic causes (10.6%). Concerning recipient sites 33 cases (70.2%) involved the mandible while 14 cases (29.8%) involved the maxilla. Complications at recipient sites were noted: partial flap necrosis in 5 cases (10.6%) total flap necrosis in 7 cases (14.9%) and absence of complications in 35 cases (744%) Reconstruction using microvascular free fibular flaps is an effective surgical procedure characterized by a low rate of complications. Future research should focus on standardizing flap selection procedures surgical techniques and postoperative care which will contribute to enhancing the effectiveness of tissue reconstruction in the craniofacial area in the future.

Title: Assessment of oxidative damage of proteins in unstimulated saliva from various nicotine delivery methods

Author(s): Katarzyna Łęczycka, Anna Węglarz

Tutor(s): lek. dent Sara Zięba, prof. zw. dr hab. Anna Zalewska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Assessment of oxidative damage of proteins in unstimulated saliva from various nicotine delivery methods";"Tobacco smoking is considered one of the most harmful addictions. The oral cavity is directly exposed to tobacco smoke thus it is the first line of defense against its pro-oxidant effect. Tobacco smoking leads to increased production of free radicals which are responsible for the development of oxidative stress. Alternative methods of nicotine delivery – heat-not-burn products and e-cigarettes - are considered less harmful to the body but their impact on health is not precisely described.

AIM OF THE STUDY

The aim of the study was to assess the concentration of 3-nitrotyrosine (3-NT) and nitric oxide (NO) in unstimulated saliva of traditional cigarette smokers e-cigarettes and heat-not-burn products users.";"The study involved collecting saliva samples from 75 smokers divided into three equal groups (traditional/e-cigarettes/heat-not-burn products smokers). The control group consisted of 25 non-smokers. The patients had been advised to abstain from eating and smoking for at least 2 hours before saliva collection. Unstimulated saliva was collected via the spitting method. The collected samples were analyzed for the concentration of 3-NT and NO.

MATERIALS AND METHODS

It has been shown that traditional cigarette smokers exhibit significantly higher levels of both NO and 3-NT compared to three other groups. Hence there is no statistically significant variance in the concentration of 3-NT in unstimulated saliva between the control group and users of e-cigarettes/heat-not-burn products. Moreover no significant difference was observed in 3-NT concentration between these two groups. However there is a statistically notable difference between the concentration of NO in unstimulated saliva between control group and users of e-cigarettes.

CONCLUSIONS

Both traditional cigarette smokers and individuals using alternative smoking methods demonstrate a noteworthy rise in the levels of 3-nitrotyrosine (3-NT) and nitric oxide (NO) in unstimulated saliva. This

elevation potentially contributes to the onset of various diseases affecting both oral health and overall systemic well-being

Title: Comparing the Xanthine Oxidase Activity Levels in the Livers of the Donors and Recipients of the Liver Allografts.

Author(s): Jakub Adamus

Tutor(s): Prof. dr hab. n. med. Leszek Pączek, Dr hab. n. med. i n. o zdr. Aleksandra Wyczałkowska-Tomasik

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Xanthine oxidase (XO) is abundant in intestinal and liver cells, catalyzing purine (xanthine and hypoxanthine) breakdown into uric acid. Under certain conditions, it transforms into an oxidative form, producing reactive oxygen species (ROS) that can cause tissue damage. Elevated XO levels are linked to liver pathologies like malaria-induced hepatocellular dysfunction. Chronic liver diseases exhibit higher serum XO levels, particularly in cholestatic disorders. Non-alcoholic fatty liver disease (NAFLD) shows increased XO activity, correlating with hyperuricemia. Research suggests XO's pivotal role in NAFLD progression, offering potential therapeutic avenues. Understanding XO's correlation with other diseases beyond NAFLD calls for further investigation

AIM OF THE STUDY

The aim of the study is to measure the xanthine oxidase (XO) activity levels in the group of 42 patients (10 liver graft donors, 32 liver grafts recipients) and compare the activity between donors (without diagnosed liver disease) and recipients (with diagnosed liver disease).

MATERIALS AND METHODS

he liver tissue samples were collected from the livers of the dead liver donors (control group, without diagnosed liver condition) and liver graft recipients (with diagnosed liver pathology). After samples' excision, they were packed in the sterile eppendorfs, transported in the hermetically sealed container and frozen in -80*C. The determination of the XO activity was performed by spectrofluorometry. 2 recipients were excluded from the study.

CONCLUSIONS

The patients 40 included in the study were divided into 6 groups. 10 donors (control group) and 30 recipients further divided into 5 categories by primery liver pathology. 2 Patients were excluded, due to: 1) drug addiction and 2) additional toxic liver injury. The XO activity levels were compared between control and each study group separately. The statistically significant differences were noted in groups with liver failure induced by viral infection p≅0,44, and WD with p≅0,10. Other groups showed XO activity at level not statistically significant. However,

every study group showed reduced XO activity comparing to the control. The greatest difference was observed in ALD at ≅84 uU/ml.

Title: Evaluation of the pituitary sex hormones importance in modulation of the colon cancer cells (SW480/SW620) function in in vitro models.

Author(s): Jakub Brodowski, Marcin Antoniuk

Tutor(s): Prof. Kamil Grubczak and Aleksandra Starosz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION Colorectal cancer is the third most common cancer worldwide and one of the most lethal. Estimated number of colon cancer in U.S. for 2024 by The American Cancer Society is 106,590. Colon cell line SW480 was isolated from primary tumor and SW620 is derived from metastases from lymph nodes. These cell lines are useful tools in studying molecular mechanisms of the cancer and potential treatment strategies. Origin of both cell lines allows for the evaluation of differences between the primary tumor and its metastases. Most recently an increasing number of studies focus on hormonal disturbances influence on the cancer's pathogenesis, including colon cancers

AIM OF THE STUDY

Our study was aimed at evaluation of pituitary hormones (FSH,LH,PRL) effect on the proliferation rate of colon cancer cell lines.

MATERIALS AND METHODS

Colon cancer cell lines – primary SW480 and metastatic SW620, were cultured with selected hormones – FSH, LH, PRL, for 48 hours. Subsequently, CFSE-based proliferation, evaluation of the cell cycle status, analysis of the cancer cells viability was performed using flow cytometry. In addition, expression of receptors for selected hormones: FSH-R and LH-R,was verified by confocal microscopy staining.

CONCLUSIONS

First, we observed that application of FSH exclusively induced proliferation of primary SW480 colon cancer cells, with cell cycle status shift towards S1-G2 phase in FSH-treated cells. In contrast treatment with LH led to reduction of metastatic SW620 colon cancer cells proliferation. FSH, LH and PRL did not affect viability of colon cancer cells. Receptors analysis revealed higher expression of FSH-R in primary SW480 colon cancer cells. Furthermore, significantly upregulated expression of LH-R within metastatic SW620 line was reported. Pituitary sex hormones - FSH and LH, seem to play a significant role in proliferation of colon cancer cells. Various levels of those hormones receptors might explain differential responses of primary and metastatic cancer cells to the stimulation. Further investigation is required for an in-depth assessment of the mechanism of the observed phenomenon.


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Title: Characteristics of population groups smoking regular cigarettes, electronic cigarettes and heat-not-burn products: Bialystok PLUS population study

Author(s): Magdalena Chlabicz, Magdalena Zalewska, Paweł Sowa

Tutor(s): prof. dr hab Karol Kamiński

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Regular cigarettes are the most common form of tobacco use. Long-term smoking is associated with serious health issues, therefore nicotine-containing products, including e-cigarettes and heat-not-burn products, are gaining popularity as alternatives to traditional cigarettes. The global landscape of tobacco use is diverse, not only in terms of the variety of products consumed but also in the socio-demographic characteristics of their users.

AIM OF THE STUDY

The aim of the study was to present populations using various nicotine-containing products, including regular cigarettes, electronic cigarettes and heat-not-burn products and compare their socio-demographic characteristics and laboratory parameters between them.

MATERIALS AND METHODS

The data were obtained from the Bialystok PLUS study conducted on a representative sample of Bialystok residents. A total of 2349 respondents were examined. 412 participants affirmed that their nicotine consumption is exclusive to a single manner. Eventually, they were divided into three groups: smoking regular cigarettes, e-cigarettes and nicotine heat-not-burn products. The data was collected from self-reported questionaries and laboratory tests.

CONCLUSIONS

Smoking regular cigarettes was declared by 308, e-cigarettes by 75, nicotine heat-not-burn products by 29 individuals. The analyzed groups did not differ in terms of gender (p=0.546) but the group smoking regular cigarettes was statistically significantly older than other two groups (p<0.001). Group smoking regular cigarettes had a statistically significant lower income in comparison to the other two groups (p<0.001). All groups differed in terms of education (p<0.001); the highest education level showed the group using HnB products. The group using HnB products exhibits statistically higher SWLS scores compared to the group that consumes traditional cigarettes (p=0.001). The analysis of groups using various tobacco products shows that alternative smoking technologies are used by populations of different age and may have varying implications for public health, warranting further investigation into their long-term effects.

Title: Primary small intestine cancer: a challenge to diagnose

Author(s): Milda Sondaitė

Tutor(s): Irina Gineikienė

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Primary small intestinal neoplasms are rare tumors that are frequently small and challenging to diagnose. Small bowel cancers are uncommon in comparison to malignancies of other organs in the gastrointestinal tract accounting for just around 3% of cancers in this system. Small bowel tumors are typically clinically silent or exhibit nonspecific symptoms making an early diagnosis challenging and delaying until the patient reaches an advanced stage of the illness. Abdominal pain anorexia gastrointestinal bleeding and weight loss are all common clinical manifestations. The diagnosis can vary depending on the location of the lesion under study and typically includes laboratory tests radiographic imaging and endoscopic evaluation

AIM OF THE STUDY

Because primary and secondary small intestine neoplasms are infrequent, cause non-specific symptoms, and appear smaller at first, radiologists continue to encounter diagnostic hurdles. A CT scan is thought to help detect abnormalities in 70-80% of people with small bowel cancer. ... MR or CT enterography are more precise diagnostics for small intestine cancer staging while histology may have a major diagnostic value in daily routines.

MATERIALS AND METHODS

This case involves a 73-year-old female who presented to the doctor with complaints of stomach and epigastric pain that worsened after eating flatulence fatigue overall weakness constipation dark feces and a 13-kg weight loss. Colonoscopy and gastroscopy were inconclusive. CT scan revealed unequal infiltration of the small intestinal fragment's wall lumen constriction and new lumen development – suggesting intussusception. A regular CT scan was not informative enough prompting a follow-up MRI enterography for additional details. A thicker wall of the jejunum fragment and significantly expressed diffusion of the MR SI signal were noted. Pathological lymphadenopathy was suspected nearby with liver metastasis. During the surgery a section of the small intestine was resected along with five lymph nodes and liver metastasis. Histopathological examination confirmed the presence of an ulcerative tumor in the small intestine. ";N/A;N/A;N/A;N/A;"

CONCLUSIONS

Because primary and secondary small intestine neoplasms are infrequent cause non-specific symptoms and appear smaller at first radiologists continue to encounter diagnostic hurdles. A CT scan is thought to help detect abnormalities in 70-80% of people with small bowel cancer. In any standard CT scan every part of the small intestine should be thoroughly analyzed because small tumors particularly

uncommon ones in the small intestine could go undetected. Using intravenous and negative oral contrast material during multidetector-CT is an efficient approach for detecting small intestinal neoplasms. MR or CT enterography are more precise diagnostics for small intestine cancer staging while histology may have a major diagnostic value in daily routines.

Title: The effect of caffeic acid on the contractility of the gastric muscles.

Author(s): Marta Berczyńska,Laura Marciniec

Tutor(s): Beata Modzelewska MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Caffeic acid (CA) is a plant-sourced polyphenol whose properties in the human body are still being discovered. CA has been reported for its multiple beneficial properties such as antioxidant capacity or antibacterial effects . However up to now it has not been examined whether it affects the contractility of the gastric smooth muscles

AIM OF THE STUDY

s main objective is to assess the effect of CA on contractility of gastric smooth muscles and determine the relations between its actions and endogenous synthesis of nitric oxide.

MATERIALS AND METHODS

Tissues were obtained from patients undergoing sleeve gastrectomy due to obesity (N=10). The layer of smooth muscle was dissected attached to strain gauge and placed in a tissue bath with Tyrod buffer at physiological temperature. After acclimatisation period contraction of muscles was stimulated using carbachol. Only strips showing stable activity of in response to agonist were proceeded further in the experiments. CA was diluted in DMSO and increasing concentrations were added cumulatively into the tissue chamber. Endogenous NO synthesis was blocked by L-NNA, L-NAME ODQ and potassium channels were blocked broad-spectrum potassium channel deactivation TEA and selectively with glibenclamide apamin and BaCl2. The area under the curve (AUC) average baseline muscle tone and relative change in muscle contraction was performed using ANOVA or the Kruksal-Wallis. The results were considered statistically significant at p=< 0.05

CONCLUSIONS

Exposure to CA caused a statistically significant decrease in contractility of gastric strips, as manifested by a change in AUC compared to the control. Preincubation with L-NNA inhibitor of endogenous NO synthesis pathway prevented caffeic acid- induced relaxation. TEA, glibenclamide, apamin and BaCl2 also reversed relaxant effects of CA.Relaxes gastric smooth muscles via activation of NO synthase and direct activation of potassium channels. Results indicate it might become a potential agent in treatment of gastric motility disturbances.

Title: The diagnostic significance of free kappa light chain measurements in patients with urinary system cancers

Author(s): Damian Fiedoruk, Krystian Kozak, Patryk Mieczkow

Tutor(s): dr hab. n. med. Monika Gudowska-Sawczuk, prof. dr hab. n. med. Barbara Mroczko

Affiliation(s): Department of Biochemical Diagnostics

Tutor(s) Affiliation(s):

INTRODUCTION

Free kappa light chains (FLC-κ) are synthesized by B lymphocytes during the production of immunoglobulins. Analysis of their concentration in serum may be of significant importance for diagnosing urinary system cancers.

AIM OF THE STUDY

The aim of the study was to determine the concentration of free kappa light chains (FLC-κ) and immunoglobulin M (IgM) in the serum of patients diagnosed with bladder and kidney tumors in order to identify statistical differences compared to healthy individuals

MATERIALS AND METHODS

The study included 20 patients with urinary system cancers (bladder cancer (n=10) and kidney cancer (n=10)) as well as healthy individuals from a control group (n=20). The concentration of the investigated parameters (FLC-κ IgM) was determined by turbidimetric method.

CONCLUSIONS

Statistically significant differences (p<0.005) were demonstrated in the concentrations of free kappa light chains between the urinary system cancer patient group (28.62±17.45 mg/L) and the control group (11.97±4.19 mg/L). Similarly the concentration of immunoglobulin IgM also showed statistically significant differences (p<0.005) between the study group (1.50±0.59 g/L) and the control group (0.85±0.43 g/L). Moreover statistically significant differences (p<0.005) were demonstrated in the concentrations of free kappa light chains between the kidney cancer patient group (30.52±21.80 mg/L) and the control group as well as between the bladder cancer patient (26.71±12.63 mg/L) group and the control group. The routine measurement of free kappa light chains could reflect the acute inflammation and provide significant insights into diagnosing bladder or kidney cancer in patients before the onset of symptoms. Therefore it may serve as a promising diagnostic parameter for the early detection of these conditions.";"Department of Biochemical Diagnostics

Title: From shamanic ritual to a valid therapeutic agent: the potential of DMT and ayahuasca in treating psychiatric disorders.

Author(s): Julia Truszkowska, Anna Stankiewicz

Tutor(s): prof. dr hab. n. med. Napoleon Waszkiewicz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Today's pharmacotherapy in psychiatry is still a considerable challenge. Classical methods do not fully meet patients' expectations, so the search for alternative therapies continues. Over the past decade, psychedelic therapy has seen an upsurge of interest in the scientific and medical communities with evidence now building for its safety and efficacy in treating a range of psychiatric disorders including depression. One promising classic psychedelic is DMT (N,N-Dimethyltryptamine) and ayahuasca, a traditional Amazonian decoction with psychoactive properties.

AIM OF THE STUDY

The aim of this publication is to review recent research on the therapeutic effect of DMT in the treatment of psychiatric disorders

MATERIALS AND METHODS

Using the key words: "DMT", "N,N-Dimethyltryptamine", "treatment", "clinical", "trial" and their combinations, research papers (meta-analyses, reviews, randomized controlled trials and clinical trials) from 2019-2024 posted on the Pubmed platform were reviewed. The latest information on the potential use of these substances in psychiatric practice was sought. The review includes citations from the found works.

CONCLUSIONS

DMT and ayahuasca show efficacy in the treatment of patients with established MDD (major depressive disorder) with appropriate dosage, circumstances and route of administration. Their antidepressant effect is associated with agonism to the 5-HT2A receptor, and the psychedelic effect seems to enhance the therapeutic effect.The described studies indicate that DMT and ayahuasca are effective in the treatment of depression (including drug-resistant depression) and reduce the intensity of suicidal thoughts. Due to the specificity of the substances and possible side effects, psychedelic therapy should be approached with great caution. It is necessary to develop detailed guidelines.

Title: A population-based preventive study of early detection of diabetes type 1 in asymptomatic children within the Podlaskie Voivodeship

Author(s): Agata Kolanek, Miłosz Nesterowicz, Katarzyna Anikiej

Tutor(s): prof. dr hab. n. med. Artur Bossowski, dr n. med Klaudyna Noiszewska

dr n. med Agnieszka Polkowska, dr n. med Milena Sztabkowska-Jamiołkowska, dr n. med Aneta Zasim, dr n. med Angelika Buczyńska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Diabetes type 1 (DT1) is an autoimmune disorder characterized by the destruction of pancreatic beta cells, leading to insufficient insulin production and consequent hyperglycemia. The disease may be diagnosed at nearly any age, though peaks in presentation occur between ages 5 to 7 and around puberty. Children typically present polyuria, polydipsia, and weight loss spanning from days to months. In cases of delayed diagnosis, additional symptoms may manifest. A subset of patients may develop ketoacidosis, a life-threatening condition with the potential to lead to coma. Sustained hyperglycemia and other metabolic consequences of insulin deficiency can precipitate long-term complications, although infrequent during childhood including retinopathy, gastroparesis, or progressive renal failure. However, early diagnosis and treatment of DT1 are essential to prevent complications later in life

AIM OF THE STUDY

The project aims to identify heightened-risk individuals with the presence of anti-pancreatic antibodies within asymptomatic children residing in the Podlaskie Voivodeship to prevent acute complications of DT1 and to reduce the likelihood of chronic complications

MATERIALS AND METHODS

The population-based study encompassed 3,000 participants residing in the Podlaskie Voivodeship, ranging in age from 1 to 9 years. Blood samples were obtained from each participant and subsequently frozen. Each sample underwent screening using a 3-screen RSR ELISA test. Further analysis was conducted only on the positive samples to detect specific antibodies, such as GAD, anti-ZnT8, anti-IA2, and IAA. The results were relayed to the Department of Pediatrics, Endocrinology, Diabetology with Card

CONCLUSIONS

After examining all children, a positive screening result was obtained in 85 (3.46%) of the subjects. Additionally, 0.44% had two, and 0.65% had two or more antibodies, which gives the highest risk of developing DT1 among the examined children.Positive test results indicating a predisposition to the development of DT1 in the future will make it easier to provide the family with appropriate education in the early recognition of symptoms related to carbohydrate metabolism disorders. This includes healthy eating habits, the importance of maintaining stable

body weight, regular physical activity, and ensuring close monitoring and care of the patient by the Diabetes Team.

Title: Navigating Opioid-Induced Hyperalgesia in a Geriatric Patient with Prostate Cancer: A Clinical Report

Author(s): Jeremi Matysek, Dominika Lech

Tutor(s): Dr. Med. Krzysztof Nosek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

This clinical case report aims to spotlight opioid-induced hyperalgesia, an uncommon reaction that can complicate pain management in patients receiving opioid therapy. Despite being prescribed to alleviate pain, opioids may paradoxically increase pain sensitivity, posing a challenge in their usage

AIM OF THE STUDY

This clinical case report aims to spotlight opioid-induced hyperalgesia, an uncommon reaction that can complicate pain management in patients receiving opioid therapy

MATERIALS AND METHODS

The report focuses on a 78-year-old male with prostate cancer experiencing severe pain in the left lower limb. Despite hypertension, the patient neglected recommended treatment. Upon admission to home hospice, he reported left thigh and lower back pain with a Numeric Rating Scale (NRS) score of 7, exacerbated by movement. Treatment involved various opioids, including controlled-release morphine, oxycodone, and oxycodone/naloxone, alongside immediate-release morphine for breakthrough pain. Physical examination revealed lumbar spine tenderness, painful left hip joint movements, and hyperalgesia and allodynia in the left lower limb. Due to opioid-induced hyperalgesia, gradual morphine reduction and substitution with ketoprofen, dexamethasone, and Magne-B6 were initiated. Effective pain management was achieved with PecFent for breakthrough pain, reducing the NRS score to 3

CONCLUSIONS

This case underscores the importance of recognizing and managing opioid-induced hyperalgesia in palliative care. While opioids remain crucial for breakthrough pain, healthcare providers must be vigilant about their potential adverse effects. Tailored pain management plans and vigilant patient monitoring are essential to balance pain relief with minimizing complications.

Title: On the trial of a correct diagnosis: Autoimmune encephalitis (AIE) as a true reason for an autistic 17-year-old boy's psychosis.

Author(s): Jacek Pietruszkiewicz

Tutor(s): Adrian Tyszka MD

Affiliation(s): Department of Child and Adolescent Psychiatry MUB

Tutor(s) Affiliation(s):

INTRODUCTION

Within the space of last decades autoimmune encephalitis connected to NMDA-receptor antibodies (Anti-NMDAR encephalitis) became a very significant entity among other non-infectious inflammatory brain disorders. Patients diagnosed with this condition present various cross-section of symptoms, such as acute psychosis, memory deficits, seizures, movement and autonomic disorders. It is crucial to include oncological diagnostics during hospital procedure, since Anti-NMDAR encephalitis is considered to be a possible paraneoplastic symptom. A proper treatment provides a complete remission of abnormalities in a large majority of cases.

AIM OF THE STUDY

MATERIALS AND METHODS

CONCLUSIONS

By following the presented case, where history of autism and appearance of schizophasia or changes in behavior might have indicated a psychiatric origin of a patient, s disorder, CSF analysis is a key-procedure to properly diagnose significant numbers of psychotic patients. Anti-NMDAR encephalitis is an increasingly prevailing reason for psychosis with an acute onset, which, if properly treated with immunosuppressive therapy, is fortunately curable.

Title: Exploring the Interplay Between COVID-19 and the Cardiovascular System: Preliminary Study Findings

Author(s): Paulina Pietraszko, Emilia Bielecka

Tutor(s): Professor Edyta Zbroch

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The occurrence of pre-existing cardiovascular disease and its associated risk factors is significant among individuals affected by COVID-19, prompting concerns about their prognosis. Conversely, COVID-19 is acknowledged for its ability to induce cardiovascular complications, such as thromboembolic events.

AIM OF THE STUDY

This study aims to elucidate the correlation between pre-existing cardiovascular conditions and ensuing cardiovascular outcomes among hospitalized COVID-19 patients.

MATERIALS AND METHODS

The study involved 65 COVID-19 patients admitted to the Department of Internal Medicine and Hypertension. Confirmation of infection was based on positive antigen or PCR testings recorded in available medical documentation. Patients were divided into two groups: one with a severe disease course requiring targeted COVID-19 treatment and the other who did not receive treatment. Comparative analyses were conducted on diagnoses, medications administered, laboratory results, and diagnostic procedures.

CONCLUSIONS

Patients with severe disease (n=35) used more medications (avg. 4.09) than those with mild disease (n=31, avg. 3.2. Severe cases exhibited higher rates of congestive heart failure (68.6% vs. 41.9%), heart attacks (28.6% vs. 12.9%), strokes (14.3% vs. 3.2%), and thromboembolic events (8.6% vs. 3.2%) compared to mild cases. ProBNP, troponin T, and troponin I levels were significantly elevated in severe cases. Comparable average heart rates were found, but pauses over 2 seconds were more frequently observed in severe cases during 24-hour ECG monitoring. Transthoracic echocardiography revealed a lower average ejection fraction in severe cases (48% vs. 55%) and a higher incidence of pulmonary hypertension (33.3% vs. 4%).In this study, we investigated the treatment of heart diseases and cardiovascular implications in 66 COVID-19 patients, categorized based on disease severity. Patients with a severe course of COVID-19 received a higher number of medications on average, including SGLT-2 inhibitors and beta-blockers, compared to those with a mild course. They also demonstrated a higher prevalence of congestive heart failure, a history of heart attacks, strokes, and thromboembolic events during COVID-19. Biochemical markers such as proBNP, troponin T, and troponin I levels were significantly elevated in patients with a severe course, indicating greater cardiac stress. Additionally, 24-hour ECG monitoring revealed comparable average heart rates, but incidents of pauses were more frequently observed in patients with a severe course. Transthoracic

echocardiography revealed a significant presence of pericardial effusion in both groups, with pulmonary hypertension being substantially more prevalent in patients with a severe disease course. In summary, COVID-19 presents complex health challenges, affecting the cardiovascular system and carrying substantial implications for public health. These results highlight the intricate relationship between COVID-19 severity, cardiovascular complications, and treatment approaches, underscoring the importance of personalized management strategies tailored to disease severity and associated cardiovascular risk factors

Title: Evaluation of Apoptosis Markers in Women with Papillary Thyroid Cancer

Author(s): Katarzyna Wincenciuk, Angelika Buczyńska, Aleksand

Tutor(s): prof. dr hab. Agnieszka Adamska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Understanding apoptosis dysregulation in papillary thyroid cancer (PTC) is crucial for refining therapies. Abnormalities in apoptotic pathways have been observed in PTC, potentially influencing disease progression. Investigating these mechanisms may unveil adjuvant therapeutic targets.

AIM OF THE STUDY

A study was undertaken to compare apoptotic factor concentrations between patients diagnosed with PTC and a control group. The objective was to identify potential functional disturbances in these proteins within PTC and to elucidate any relationships between the investigated parameters, biochemical results with potential clinical implications.

MATERIALS AND METHODS

A study was undertaken to compare apoptotic factor concentrations between patients diagnosed with PTC and a control group. The objective was to identify potential functional disturbances in these proteins within PTC and to elucidate any relationships between the investigated parameters, biochemical results with potential clinical implications.

CONCLUSIONS

The results indicated a significant increase in PUMA concentration in PTC serum (p=0.002) compared to controls, along with a notable elevation in BAX concentration in PTC serum without angioinvasion (p<0.038) compared to controls. We observed correlation between BAX and FASL (r=0.71; p<0.0001), AIF and FASL (r=0.74; p<0.0001), PUMA and PLT (r=0.31; p<0.0003), and TIGAR and PLT (r=0.46; p<0.0001) in whole group with PTC.PTC patients exhibited elevated PUMA levels, with those without angioinvasion also showing increased BAX concentrations. The physiological activation of BAX by increased PUMA levels may be insufficient in patients with angioinvasive PTC, suggesting apoptosis deregulations. Moreover, the correlations among factors activating separate apoptosis pathways in PTC may hold significant clinical implications and warrant further investigation.

Title: Evaluation of the correlation between cognitive tests and oxidative stress markers in obese patients before and 6 months after bariatric-metabolic surgery – preliminary study

Author(s): Ewa Płonowska, Aleksander Łukaszewicz,

Tutor(s): Patrycja Pawłuszewicz, MD, PhD, Hady Razak Hady, Professor, MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Obesity is a social disease associated with a serious health risk. Numerous scientific reports draw attention to structural and functional changes in the nervous system in response to increased adiposity in the body. Obesity is believed to be a risk factor for premature brain aging, altered brain activity and cognitive decline. The impact of the weight reduction due to surgical intervention on the brain still needs further investigations.

AIM OF THE STUDY

The aim of the study was to highlight the negative impact of obesity on cognitive function.

MATERIALS AND METHODS

study included a group of patients qualified for LSG - individuals without a history of depression, stroke, severe head injuries, alcohol or psychoactive substances addiction. Patients underwent a battery of tests assessing cognitive function (ACE III, The Pair Test, The Cognitive Failure Questionnaire (CFQ)) and mental health (Beck Depression Scale).

CONCLUSIONS

A total of of 12 patients (6 women, 6 men) participated in this study. The mean age was 42.58 ± 9.62. The mean body weight was 148 ± 24.85 kg (BMI 49.27 ± 3.8 kg). Based on the Beck Depression Scale, depression was excluded in 91.67% (11) of patients, 1 patient was classified as mild depression (19/63 points). CFQ analysis revealed that 7 out of 12 (58.33%) respondents indicated responses consistent with memory impairment. The mean ACE III score was 89.17 ± 6.01 points. 4 out of 12 patients attained results lower than 88 points - a prognostic score for dementia (sensitivity 95%, specificity 89%). Obese patients demonstrated the poorest performance in memory-related tasks with a score of 20.0 ± 3.22 points (out of a maximum of 26 points).Metabolic changes in obesity negatively affect the brain. Bariatric surgeries lead to weight loss reduction and improvement in metabolism parameters. The preliminary results obtained in the study confirm previous literature reports – obesity is associated with

Title: Association between Obstructive Sleep Apnea and Heart Failure in Adults – preliminary reports.

Author(s): Agnieszka Polecka,Natalia Olszewska,

Tutor(s): Prof. dr hab. n. med. Ewa Olszewska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Obstructive Sleep Apnea (OSA) is a chronic inflammatory condition characterized by episodes of total or partial obstruction of upper respiratory airways during sleep with preserved respiratory muscle effort. Heart failure (HF) is characterized by cardiac impairments leading to a complex clinical syndrome with distinctive symptoms and manifestations. OSA is strongly linked to adverse outcomes in HF patients, forming a negative feedback loop exacerbating both conditions. Latest guidelines added SGLT2 inhibitors (SGLT2i, empagliflozin and dapagliflozin) for HF treatment, offering cardiovascular benefits. Additionally, preliminary studies suggest potential benefits of SGLT2 inhibitors in reducing OSA risk and improving sleep parameters (apnea/hypopnea index (AHI)).

AIM OF THE STUDY

The aim of the study is to assess the impact of heart failure treatment on sleep parameters, and to evaluate cardiac parameters after OSA treatment.

MATERIALS AND METHODS

A total of 22 patients with OSA and HF who met inclusion criteria were randomly divided into two groups (control group, n=10, with no SGLT2i added to the HF treatment; study group, n=12, SGLT2i added at the initiation). Patients were assessed at baseline and after 3 months including medical history, laryngological evaluation of upper airways, type III sleep study, echocardiography, neck circumference (NC) and standardized questionnaires. After 3 months, all of the patients started OSA treatment.

CONCLUSIONS

A significant decrease in NC was noted in the study group, both in the evening and morning, whereas no such change was observed in the control group. When examining NC during sleep, the control group showed an initial increase of approximately 2.15 cm, which further increased to 2.8 cm after 3 months. In contrast, in the study group there was an initial increase of NC of 3.2 cm, which reduced to 0.7 cm after 3 months of SGLT2i therapy. Both groups demonstrated a decrease in AHI after 3 months, with a significant reduction observed in the study group. Additionally, participants using SGLT2i showed improved left ventricle ejection fraction and greater improvements in questionnaires.The SGLT2i therapy in OSA+HF patients may prevent nighttime NC enlargement and provides stability during sleep, potentially protecting against upper airway collapse. Combining HF treatment with SGLT2i in OSA+HF patients may result in greater improvements in sleep parameter, quality of life, and sleep overall.

Title: Understanding Recurrent Hernia

Author(s): Joanna Jamiołkowska

Tutor(s): PhD Piotr Wojskowicz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Recurrent hernia, a common complication following hernia repair surgeries, presents a significant challenge to patients and clinicians alike. Despite advancements in surgical techniques and materials, the recurrence of hernias remains a persistent issue, often requiring revision surgeries and imposing substantial burdens on healthcare systems

AIM OF THE STUDY

The aim of the study was to assess the characteristics and factors associated with recurrent hernias in patients undergoing abdominal hernia repair.

MATERIALS AND METHODS

Patients admitted to the department for abdominal hernia repair were assessed for recurrent hernia status. Morphology, lipid profile, and glycated haemoglobin were examined. Each patient, s hernia size, previous treatment method, and familial occurrence of hernias were determined.

CONCLUSIONS

Three patients were enrolled in the study, comprising 2 females and 1 male. All presented with recurrent postoperative hernias. Hernia size ranged from 3 to 6 cm in diameter, measuring the hernia orifice. Familial occurrence of hernias was noted in 2 patients. Elevated lipid levels were observed in 2 cases, while one female patient exhibited elevated levels of glycated haemoglobin. Our study highlights the persistent challenge of recurrent hernias following surgical repair. The varied sizes of hernias in our cohort emphasize the need for individualized treatment approaches. The identification of familial occurrences suggests a potential genetic predisposition. Elevated lipid levels in two cases and elevated glycated haemoglobin in one case underscore the importance of addressing metabolic factors in hernia management. Overall, our findings underscore the multifactorial nature of recurrent hernias and advocate for comprehensive management strategies tailored to each patient, s specific needs.

Title: Sporotrichosis or syphilis? Two rare etiologies of diffuse leg ulcerations in a 49-year-old male.

Author(s): Natalia Welc,Kubisiak-Rzepczyk,Bowszyc-Dmochowska,Polanska

Tutor(s): Ryszard Zaba, Aleksandra Danczak-Pazdrowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Cutaneous disseminated sporotrichosis is a subcutaneous infection caused by Sporothrix schenckii fungi, often called rose gardener disease. Syphilis is a sexually transmitted disease for which the etiologic cause is Treponema pallidum. If untreated, tertiary syphilis may result in the formation of gummas. The case reports a patient who almost simultaneously developed leg ulcers of these two rare etiologies.

AIM OF THE STUDY

A 49-year-old male presented to the Dermatology Department with diffuse, painful, itchy ulcerations on the lower limbs, which he developed about four weeks after being scratched by a wild cat. Three lesions were found around the left ankle, and one lesion on the medial part of the thigh, on the left buttock and the right lower leg, respectively. The patient also had type 2 diabetes treated with dapagliflozin, sitagliptin and gliclazide.

MATERIALS AND METHODS

Previous treatment included topical clobetasol, gentamicin and betamethasone, oral clemastine, erythromycin and methylprednisolone, but only with slight improvement. A deep tissue biopsy and a swab from the biopsy wound were taken from the ulcer on the right lower leg for both mycological tests and microbiological culture. The biopsy for the histopathological test was taken from the ulcer on the left thigh. Direct immunofluorescence (DIF) from the lesion on the left buttock was also done during

CONCLUSIONS

talisation. The screening test for Treponema pallidum antibodies performed for every patient admitted to the Dermatology Department returned positive. The titer of TPHA in the blood was 1:320, and RPR was negative. The patient was neither treated for syphilis nor did he suspect the infection throughout his life. The histopathological test revealed that the biopsy may match the syphilitic rash with dermatitis. Inflammatory parameters, as well as DIF, were negative. In the culture, Sporothrix spp. were grown. The patient was treated with penicillin for syphilis of unknown duration and itraconazole for sporotrichosis. After one month, the dermatological condition improved and the ulcers were mostly healed. Lower limb ulcerations frequently lead to diagnostic and therapeutic challenges. Both sporotrichosis and tertiary syphilis, despite their rare incidence, should be included in the differential diagnosis of leg ulcers, especially in patients not responding to the standard treatment. Appropriate tests must be performed to reach the correct diagnosis and treatment.


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Title: When non-specific symptoms turn out to be a brain tumor, but with a favorable prognosis.

Author(s): Anna Motybel

Tutor(s): Roman Koński MD, Jan Stachurski PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Medulloblastomas are the most common malignant brain tumors of childhood, accounting for about 10 percent of primary tumors. They are located in posterior fossa. According to the latest WHO classification, they were divided into several histopathologic variant. One of these is Medulloblastoma with Extensive Nodularity (MBEN), which is associated with enhanced prognosis in comparison to classic medulloblastoma. Also, some studies show that children with MBEN have higher survival rate. MBEN is characterized by three locations of carcinogenesis: midline, hemispheric and with cranial nerve involvement, resulting in variety of symptoms.

AIM OF THE STUDY

A 22-month old boy, was admitted to the emergency department due to the lethargy and gait ataxia. Symptoms have been developing for over a month. It had been preceded by bilateral otitis media. The neurological exam was limited due to lack of patient's cooperation. There were broad-based gait, walking with parents' help, behavioral changes and the enlarged head circumference

MATERIALS AND METHODS

In family medical history, there were two cases of essential tremor (patient's mother and grandmother) and also his grandfather had been suffering from Parkinson's disease. CT scan was performed, it revealed a mass (50x42x44 mm) which was located in cerebellum. It was occluding fourth ventricle, resulting in hydrocephalus, due to the increased intracranial pressure. Calcifications and local oedema were present.

CONCLUSIONS

There were no evidences of necrosis and hemorrhage or cystic changes. The presence of tumor was confirmed by MRI scan. According to the guidelines, the maximal safe resection was performed, because the diagnosis of medulloblastoma requires histopathologic confirmation and this is an important part of the superior prognosis.Medulloblastomas with Extensive Nodularity most often arise in the first two years of life. They rarely have the distant metastases at diagnosis. The extent of disease, the postoperative amount of residual tumor and the patient's age have an impact on the progression. From this reasons, early diagnosis and relevant treatment is the key to affecting successful outcome. It can be achieved thanks to combined modality approach, which consists of maximal safe surgery resection, radiation therapy (in patients 3 years old) and adjuvant chemotherapy.

Title: The characteristics of neonates born with phenotypic features of Down syndrome in the Department of Neonatology and Newborn Intensive Care.

Author(s): Aleksandra Poznalska, Ewa Dryl-Jarmoc, Marta Berczyńska

Tutor(s): Assoc. Prof. Monika Kamianowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Down syndrome (DS) is the most common chromosome abnormality among live born neonates and the most frequent form of intellectual disability caused by a chromosome aberration. In Europe it occurs in approximately 1 per 1000 live births. DS is characterized by different dysmorphic features, congenital defects and other health complications.

AIM OF THE STUDY

The aim was to analyze the characteristics of the neonates with phenotypic features of DS in the Department of Neonatology and Neonatal Intensive Care of the University Clinical Hospital in Białystok in the years 2015-2023.

MATERIALS AND METHODS

Between 2015 and 2023, 19,170 children were hospitalized in the Department. Among them, 49 neonates (25 girls and 24 boys) were born with phenotypic features of DS (0.26%, 2.6 per 1000 live births). 22 births (44.90%) were vaginal deliveries and 27 (55.10%) were caesarean sections. The median gestational age was 38 weeks, with the birth weight averaging 3045.71 g. The median 1st minute Apgar score was 7. 21 neonates were born in good condition (42.86%), 25 children had moderate asphyxia (51.02%) and 3 had severe asphyxia (6.12%). The median length of hospital stay was 11 days. It correlated negatively with the 1st minute Apgar score (R=0.32, p<0.05). Respiratory disorders were diagnosed in 53.06% of the neonates, while cardiovascular disorders occurred in 75.51% of the children, including including 19 neonates (51.35%) with congenital heart defects. In 69.39% of the neonates phenotypic features of DS were suspected in prenatal examination. The median mother's age was 41 years. Women at advanced maternal age (35 years old) accounted for 83.67%. 40 mothers (81.63%) were married 4 (8.16%) had an unmarried partner and 5 (10.20%) were single.

CONCLUSIONS

The occurrence of DS in the Department was higher that its estimated European live birth prevalence, most likely due to specific nature of the tertiary care unit. The occurrence of DS in neonates correlated positively with their mother ;s age. DS in newborns prolonged their hospitalization, especially in children with birth asphyxia. The frequency of prenatal diagnosis of DS was high, but its confirmation by amniocentesis occurred only in 1/3 of cases. Most of the neonates with DS were cared for by both parents.

Title: A Case report of a Newborn with Enteroviral encephalitis and myocarditis.

Author(s): Patrycja Puciato

Tutor(s): Dr.Kacper Toczylowski

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Enteroviruses are among the most common causes of acute viral illness worldwide, and in neonates, the clinical course of these infections is heterogeneous. Severe complications, such as myocarditis, are associated with high mortality rates

AIM OF THE STUDY

Signify the importance of recognising and diagnosing enteroviral infection early ,neonates to prevent serious complications.

MATERIALS AND METHODS

Observation. Usage of secondary data such as documents and records.

CONCLUSIONS

Enteroviral encephalitis and myocarditis were confirmed by RT-PCR testing of CSF. Echocardiography, laboratory and ECG findings confirmed enteroviral induced myocarditis. The prompt use of polymerase chain reaction enables rapid virologic diagnosis. Rapid initiation of treatment is crucial for reducing morbidity and mortality rates. This case highlights the importance of echocardiography in infants with suspected enterovirus infection to assess cardiac function and start inotropic treatment. Also, although there's insufficient data to support the use of IVIG in the treatment of neonatal enteroviral infection, in our case it improved the outcome for the patient.

Title: Enteroviral Pediatric Encephalitis – a Case Report.

Author(s): Ahmad Reza Rezaei

Tutor(s): Dr. Kacper Toczyłowski, MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pediatric encephalitis may present with diagnostic challenges, especially in young children. Enteroviruses, commonly implicated pathogens, manifest with a spectrum of neurological symptoms, requiring early diagnosis and intervention. Many signs and symptoms, but also diagnostic test results may be absent, making the diagnosis challenging

AIM OF THE STUDY

Demonstrated in the conclusion

MATERIALS AND METHODS

Clinical case report

CONCLUSIONS

This case highlights the complexity of diagnosing pediatric encephalitis, especially with enterovirus as a likely causative agent. The response to immunoglobulin therapy along with steroids highlights the significance in managing viral encephalitis, notwithstanding that acyclovir is not used unexceptionally. Nasopharyngeal and stool test add value in confirming enteroviral infections. Further exploration of viral and bacterial interactions is also crucial to optimize therapeutic approaches and improve patient outcomes.

Title: Case report of subacute necrotizing encephalomyelopathy.

Author(s): Zuzanna Roszkowska, Konstancja Ustymowicz, Maria Orzeł

Tutor(s): Dariusz Madajczak MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Leigh syndrome (LS) is a rare, severe, and heterogenic neurological disorder associated with mutations in mitochondrial DNA (mtDNA) and nuclear DNA (nDNA), which encodes mitochondria-related factors. It manifests in early childhood as a rapid deterioration of respiratory, motor, and cognitive functions, such as ataxia, ophthalmoplegia, and central hypotonia.

AIM OF THE STUDY

The aim of this case report is to highlight the challenges in diagnosing Leigh syndrome, given its non-specific clinical manifestations, and to emphasize the importance of considering this condition in children presenting with elevated lactate levels and neurological abnormalities.

MATERIALS AND METHODS

A 3-week-old male neonate was admitted to the regional hospital due to respiratory distress. After rapid deterioration of respiratory function, the infant was transferred to the neonatal intensive care unit of the reference centre. During transportation, the patient presented seizures and was intubated due to cyanosis, which occurred despite normal saturation. During his stay in the unit, he was intubated several times due to respiratory problems. Hypertrophic cardiomyopathy was detected in the ECG. Despite tube feeding, gastrostomy, and total parenteral nutrition, no weight gain was achieved. Metabolic workup showed elevated levels of lactate in plasma and CSF. Whole exon sequencing revealed a heterozygous mutation of the SCO2 gene, specific for Leigh syndrome. The patient died 46 days after being admitted to the intensive care unit.

CONCLUSIONS

Leigh syndrome is a challenging condition to diagnose due to its non-specific clinical manifestations. It should be considered in children with elevated lactate levels and changes in basal ganglia, brainstem, or subthalamic nuclei. There is no available treatment; palliative therapy is recommended.

Title: Double diagnosis - case report

Author(s): Joanna Słuchocka

Tutor(s): MD Hanna Nosek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Primary hypomagnesemia with hypercalciuria and nephrocalcinosis is a rare genetically determined disorder with a prevalence of <1/1,000,000 children. It is characterized by recurrent urinary tract infections, nephrolithiasis, bilateral nephrocalcinosis, renal magnesium wasting, hypercalciuria, and kidney failure. Sometimes symptoms also include seizures, abdominal pain, and tetany. The main problem in this disease is impaired tubular reabsorption of magnesium and calcium in the thick ascending limb of Henle's loop due to mutations in the CLDN16 gene, which encodes claudin-16.

AIM OF THE STUDY

The aim of this case report is to emphasize the importance of recognizing and diagnosing primary hypomagnesemia with hypercalciuria and nephrocalcinosis, and to highlight the necessity of genetic counseling for at-risk couples.

MATERIALS AND METHODS

A 6-year-old boy was admitted to the hospital following a follow-up blood test that showed deviations such as hypomagnesemia and hypercalciuria, with an increased frequency of seizures. In 2020, he was diagnosed with epilepsy and has been treated for it since then. At that time, his only laboratory deviations were low levels of magnesium in the blood and high levels of calcium in the urine. Considering this in the differential diagnosis, genetic tests were performed in 2021, revealing a mutation of p.Leu151Phe in both alleles of the CLDN gene coding claudin-16. Since then, the patient has been under regular care at the Nephrology Clinic. Over the years, some alterations in medication dosages were necessary. During his hospitalization in 2024, some tests were conducted, and he was discharged in stable condition, with a follow-up appointment scheduled in 4 months.

CONCLUSIONS

Primary hypomagnesemia with hypercalciuria and nephrocalcinosis is an example of an autosomal recessive pattern of inheritance, meaning that at-risk couples (both carriers of the mutation) have a 25% chance of having a child with the disease. Genetic counseling is crucial for these couples. Additionally, this case illustrates the importance of broad differential diagnosis and awareness of genetic diseases, which can lead to identifying multiple conditions in a patient, even rare ones.

Title: An example of mucolipidosis type IV

Author(s): Tymon Lewalski

Tutor(s): Doktor Nauk Medycznych Hanna Nosek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Mucolipidosis type 4 is an extremely rare genetic disease that is severely under-diagnosed and is characterized by significantly delayed psychomotor development, visual disturbances, and lack of hydrochloric acid in the stomach. In the Ashkenazi Jewish population, there are two severe mutations with a higher carrier frequency of 1:90 to 1:100, but estimates suggest that MLIV occurs in fewer than 1 in 100,000 individuals in the general population.

AIM OF THE STUDY

The aim of this case report is to highlight the diagnostic challenges associated with mucolipidosis type 4 and to emphasize the importance of broad differential diagnosis and genetic counseling, particularly in distinguishing this condition from other similar disorders like cerebral palsy.

MATERIALS AND METHODS

The patient is a 17-year-old boy. His postnatal development was normal, except for unequal pupils, which were noticed 2 weeks after birth. The patient was referred to an ophthalmological and neurological clinic, where no significant disorders were found. Around 6 months of age, decreased muscle tone was noticed. He was referred to a rehabilitation clinic where his development was normal, but from the first year of life, the boy could not walk independently, and his muscle tone began to change from decreased to increased, which led to a wrong diagnosis of infantile cerebral palsy at the age of 2. The patient's additional symptoms include iron deficiency anemia, corneal opacity, and nystagmus. Karyotype tests were performed, which did not reveal any genetic disease. In 2023, a WES test was performed, based on which the accurate diagnosis of mucolipidosis type 4 was made.

CONCLUSIONS

Mucolipidosis type 4 is an example of an autosomal recessive pattern of inheritance, which means that both parents carry the mutated gene and have a 25% chance of having a child with this particular disease. It is crucial to offer them genetic counseling. This case illustrates that mucolipidosis type 4 is often misdiagnosed as cerebral palsy and underscores the importance of broad differential diagnosis and awareness of genetic diseases.

Title: Sport is health?

Author(s): Tymon Lewalski

Tutor(s): Doktor Nauk Medycznych Hanna Nosek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Rhabdomyolysis is a pathological condition characterized by the breakdown of skeletal muscles and the release of their components into the bloodstream. The most characteristic and common symptoms of rhabdomyolysis include muscle pain, general weakness, and darker-than-usual urine, resembling the color of tea.

AIM OF THE STUDY

The aim of this case report is to highlight the potential risks of intense physical activity, especially during or following an infection, and to underscore the importance of awareness and education regarding rhabdomyolysis and its prevention.

MATERIALS AND METHODS

The patient is a 15-year-old boy transferred from the hospital in Działdowo with suspected post-exertional rhabdomyolysis. A week before admission, he had a catarrhal infection; 2-3 days before admission, he engaged in intense exercise at the gym after a six-month break. The day before admission, the patient experienced severe muscle pain in the upper limbs, chest, and back, with brown, foamy urine. Laboratory tests showed significantly elevated levels of CK, ALT, and AST. Upon admission, the patient reported severe pain in his limbs, leading to a diagnosis of rhabdomyolysis, most likely related to intense exercise during a respiratory infection. Treatment included intensive fluid therapy, urine alkalinization, and furosemide. The patient's condition improved, and after a week of hospitalization, he was discharged home in good general condition.

CONCLUSIONS

This case demonstrates that physical activity can pose significant health risks if not properly managed, particularly during or after an infection and following a long break from exercise. It underscores the need for patient education about the dangers of intense physical exercise under these conditions. One of the most critical treatment goals when rhabdomyolysis is suspected is to prevent acute kidney injury.

Title: Case Report: The mystery of dark chocolate-colored blood in a child with leukemia.

Author(s): Maria Suprunowicz, Katarzyna Marcinkiewicz

Tutor(s): Małgorzata Sawicka-Żukowska PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Methemoglobinemia is a rare condition that results in the loss of the ability of hemoglobin to attach and carry oxygen. It is a potentially life-threatening disturbance, manifested by central nervous system depression, dyspnea, or even severe respiratory failure and death. The causes of methemoglobinemia can be congenital or acquired, with the acquired ones, such as the effect of some medications, occurring more frequently.

AIM OF THE STUDY

The aim of this case report is to highlight methemoglobinemia as a potential side effect of ifosfamide treatment in pediatric patients undergoing chemotherapy for T-cell acute lymphoblastic leukemia (T-ALL).

MATERIALS AND METHODS

This case report presents a 3-year-old boy treated with ifosfamide for T-cell acute lymphoblastic leukemia (T-ALL) who developed methemoglobinemia as a side effect of chemotherapy. The methemoglobin value was unusually high at 57.10%. The patient was admitted to the Intensive Care Unit (ICU) in critical condition. Treatment included methylene blue administration, an exchange transfusion, catecholamines infusion, antibiotics, antifungals, diuretics, and steroids. The boy was eventually discharged from the hospital in good condition after completing the chemotherapy HR-2 block.

CONCLUSIONS

Methemoglobinemia is most often drug-induced, and while the literature rarely mentions ifosfamide as a cause, in this patient, it was most likely the cumulative dose of ifosfamide that led to the life-threatening condition. For this reason, methemoglobinemia should be considered a potential side effect of treatment with this chemotherapeutic agent.

Title: Nager syndrome- a case report

Author(s): Dominika Lech

Tutor(s): dr n. med. Krzysztof Dowgierd

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Nager syndrome is a rare developmental disorder characterized by craniofacial abnormalities, including mandibular hypoplasia, microretrognathia, ankylosis of the temporomandibular joint, downward-slanting of the palpebral fissures, cleft palate, and limb deformities. With only around a hundred documented cases, its inheritance pattern exhibits genetic heterogeneity, encompassing both autosomal dominant and recessive forms. Most cases are linked to mutations in the SF3B4 gene, situating Nager syndrome within the spliceosomopathy group. Diagnosis relies on clinical examination, radiological assessment, and genetic testing. Due to its complexity, treatment requires a multidisciplinary approach, often involving long-term interventions tailored to address the diverse range of associated defects.

AIM OF THE STUDY

The aim of this case report is to describe the clinical challenges and management strategies in an 8-year-old patient diagnosed with Nager syndrome, emphasizing the importance of a multidisciplinary approach to improving the quality of life in individuals with this rare condition

MATERIALS AND METHODS

This case report details an 8-year-old patient diagnosed with Nager syndrome, presenting with micrognathia, underdeveloped limbs, craniofacial abnormalities, and bilateral conductive hearing loss. The patient's medical history includes recurrent mandibular osteotomies and distraction procedures to address mandibular hypoplasia, as well as a tracheostomy shortly after birth due to difficulties with intubation and subsequent pneumonia. Surgical interventions included closure of the cleft palate, mandibular osteotomies, and gastrostomy tube insertion. The patient remains under home hospice care for comprehensive management, highlighting the complexities inherent in treating Nager syndrome.

CONCLUSIONS

Nager syndrome is a rare disorder resulting from developmental abnormalities of the first and second branchial arches. Early intervention, intensive education, new surgical techniques, and an emphasis on coordinated care have improved the quality of life in this patient with Nager syndrome.

Title: Misdiagnosis of Cytomegalovirus in Infants: Challenges in Diagnosing Neonatal Neuroinfections

Author(s): Varouj Vartanian, Kiara Sequeira, Patrycja Puciato

Tutor(s): Dr. Kacper Toczyłowski, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

A male infant was born at 29 weeks and 6 days of gestation and was initially suspected of having a congenital cytomegalovirus (CMV) infection. Due to prematurity, the infant required a 5-day course of antibiotic therapy post-delivery. The infant also presented with anemia and jaundice, which necessitated phototherapy. CMV DNA was detected in the infant's urine on the 56th day of life, raising concerns about a congenital CMV infection. Further diagnostic evaluations included a CNS ultrasound on November 28, 2023, which showed lenticulostriate vasculopathy. Despite the detection of CMV DNA, the ultrasound findings, and the child's perinatal history, the child was reported to be in good overall health.

AIM OF THE STUDY

The aim of this research study is to emphasize the diagnostic challenges and clinical management of a premature infant initially suspected of having a congenital cytomegalovirus infection but later found to have an enteroviral infection. This report seeks to encourage clinicians to be cautious with suspected CMV cases and to consider differential diagnoses carefully.

MATERIALS AND METHODS

The diagnostic evaluations for the infant included a complete blood count (CBC), electrolytes, vitamin D levels, liver enzymes, C-reactive protein (CRP), ferritin, glucose, anti-CMV IgG, anti-CMV IgM, troponin, and a neurological examination.

CONCLUSIONS

The laboratory results on December 5, 2023, indicated elevated white blood cells (20.2 x 10^3/µl), hemoglobin (10.8 g/dl), and platelets (690 x 10^3/µl). Anti-CMV IgG was detected at 35 UA/mL, while anti-CMV IgM levels were low at 0.08. Cerebrospinal fluid (CSF) analysis showed elevated CSF cytosis at 770 cells/µl, with 65% lymphocytes and 32% monocytes. Despite the detection of CMV DNA in the urine, subsequent diagnostic and laboratory findings did not support a diagnosis of congenital CMV infection, instead suggesting the possibility of an enteroviral infection affecting the child. This case study of a premature infant initially suspected of having congenital cytomegalovirus infection underscores the complexities involved in diagnosing and managing infections in newborns, particularly when multiple potential pathogens are involved. The findings highlight the importance of a comprehensive and multidisciplinary approach in diagnosing congenital infections, including careful interpretation of various diagnostic results. Early and accurate differentiation between CMV and other infections is critical for effective management and optimal outcomes in affected infants. Continued research into diagnostic methods and management strategies for newborn infections will help improve clinical practices and patient care.

Title:

Transcatheter thrombolytic treatment of high-risk pulmonary embolism complicated by intracerebral haemorrhage - a case report.

Author(s): Laura Bursztynowicz,Adam Sadowski,Paulina Hnatuśko

Tutor(s): MD PhD DSc Anna Lisowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

High-risk pulmonary embolism is an emergency condition with a high mortality rate. One therapeutic approach is transcatheter thrombolysis, which is targeted at addressing haemodynamic instability during anticoagulant treatment. Complications, such as cerebral haemorrhage, are rare (0.35-1%) due to the use of a lower drug dose compared to intravenous administration.

AIM OF THE STUDY

The aim of this study is to evaluate the efficacy and safety of transcatheter thrombolysis in the treatment of high-risk pulmonary embolism, particularly focusing on the risk of complications such as cerebral haemorrhage.

MATERIALS AND METHODS

Case report: An 87-year-old patient with a history of hypertension was admitted to the Department for massive pulmonary embolism confirmed by angiography-CT, which revealed multiple bilateral emboli in the lobar arteries and rider-type emboli in the divisions of the main pulmonary arteries. Laboratory investigations showed high levels of D-dimers (>20 µg/ml), troponin I hs (659.6 ng/l), and NT-proBNP (15356 pg/ml). The ECG revealed negative T-waves in the V1-V4 leads and a Q-wave in III, aVF. Echocardiography indicated pulmonary hypertension and right ventricular overload. Initial treatment included low-molecular-weight heparin, but persistent hypotonia and hypoxaemia were observed. High-risk pulmonary embolism was diagnosed, and thrombolytic treatment was initiated with 20 mg of Actilyse in a 2 mg/h infusion through a UniFuse catheter inserted via cervical access into the right pulmonary artery. A few hours later, the patient's neurological condition deteriorated, and a CT scan revealed a massive left hemisphere intracerebral haematoma with penetration into the brain ventricles and displacement of central structures to the right. The patient died on the second day of hospitalisation.

CONCLUSIONS

In cases of thrombolytic treatment administered directly into the pulmonary artery, careful selection of drug dose, infusion duration, and adjustment based on fibrinogen levels can reduce the risk of cerebral haemorrhage and death. However, data on the efficacy and safety of this approach are limited, necessitating further randomised trials.

Title: Dyspnoe at the masquerade ball - The difficulties of differential diagnosis of pulmonary hypertension in the patient with multimorbidity.

Author(s): Mateusz Czajkowski, Mateusz Zimowski

Tutor(s): dr Katarzyna Wilk-Śledziewska, prof. dr hab. Edyta Zbroch

Affiliation(s): SKN przy Klinice Chorób Wewnętrznych i Hipertensjogii

Tutor(s) Affiliation(s):

INTRODUCTION

ulmonary hypertension is a condition in witch there is abnormally high blood presure in the pulmonary artery. One of the symptoms is dyspnoe whitch could be sympthom of developing pulmonary hypertension or may be the symptom exaberation of the disease causing hypertension. The aim of this case report is to describe the difficulties involved in diagnosing the cause of dyspnoea in a patient with chronic obstructive pulmonary disease, pulmonary hypertension and left heart failure. These reasons can make it difficult to recognize cause-and-effect sequence

AIM OF THE STUDY

N/a

MATERIALS AND METHODS

N/a

CONCLUSIONS

Diagnosis of pulmonary hypertension can be difficult when symptoms of diseases from other systems are overlapping. This case shows the necessity of watchful observation of patients with multimorbidity, but also difficulties in maintaining good medical compliance. Patient dyspnoea always requires increased attention, especially when dealing with multimorbidity.

Title: Vascular invasion in renal cell carcinoma - surgical management

Author(s): Maksymilian Seweryn, Zuzanna Czeczelewska, Alicja Smoleńska

Tutor(s): Katarzyna Szklener MD, Professor Krzysztof Bar PhD, Przemysław Mitura PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Renal cell carcinoma (RCC) is the seventh most common neoplasm worldwide. Frequently, tumors at significant stages may result in venous invasion as a tumor thrombus, initially extending into the renal vein and then into the inferior vena cava, up to the right atrium of the heart. In such cases, the treatment of choice is radical nephrectomy with inferior vena cava thrombectomy. This management increases the 5-year survival rate by 31%. It should be noted that this is a multidisciplinary problem requiring the cooperation of several specialists.

AIM OF THE STUDY

The aim of this study is to highlight the complexity and importance of multidisciplinary cooperation in the surgical treatment of advanced RCC with vascular invasion.

MATERIALS AND METHODS

A 62-year-old woman was admitted to the Department of Urology for surgical treatment of an extensive RCC of the right kidney with a tumor thrombus in the right renal vein and inferior vena cava extending into the right atrium of the heart. The procedure required the collaboration of a team of cardiac surgeons and urologists. After establishing extracorporeal circulation, the right atrium was opened, and the thrombus was pushed below the diaphragm. Radical nephrectomy and removal of the tumor infiltration were performed. After clamping the inferior vena cava, left renal artery, and hepatoduodenal ligament, the IVC was incised, and the neoplastic lesion was removed. Postoperative histopathological examination revealed clear cell RCC, classified as pT3aM0N0 and graded as G4. After surgery, the patient was transferred to the intensive cardiac care unit and later discharged home once her general condition improved.

CONCLUSIONS

One of the serious complications of RCC is vascular invasion, for which surgical management remains the gold standard. The major risk of the procedure requires careful selection of methods to minimize perioperative complications. Multidisciplinary cooperation and optimal planning are crucial due to the high complexity of the intervention.

Title: Beyond Conventional Approaches: CD52-Targeted Therapy in Resistant Peripheral T-Cell Lymphoma — Case Report

Author(s): Natalia Czerwik

Tutor(s): Anna Maria Janik, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Peripheral T-cell lymphomas are rare lymphoproliferative neoplasms, accounting for 5-10% of all lymphomas. The most common subtype is peripheral T-cell lymphoma unspecified (PTCL-NOS), an aggressive neoplasm requiring immediate treatment

AIM OF THE STUDY

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MATERIALS AND METHODS

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CONCLUSIONS

The case highlights the need for a personalised treatment approach and the need for continued research into new therapies for patients refractory to current PTCL-NOS treatment.

Title: Evil in the bottle

Author(s): Jakub Dziemiańczuk, Mateusz Czajkowski

Tutor(s): dr hab. n.med. Agnieszka Świdnicka-Siergiejko

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The case of a 53-year-old man with alcohol dependence and a history of caustic esophageal injury illustrates the unfortunate progression of this disease. In September 2019, the patient presented with worsening dysphagia for solid foods over the past two weeks. Despite having ingested a corrosive substance previously, he did not seek medical attention due to a lack of health insurance. Only when his dysphagia became more severe did he visit the emergency department, where an upper endoscopy revealed narrowing of the middle part of the esophagus. Esophageal dilation attempts were made multiple times but with limited success. Surgical reconstruction was deemed unfeasible due to the high risk of fistula formation. Caustic damage to the esophagus from corrosive substance ingestion is a serious condition that can lead to various complications, including bleeding, fistulas, and esophageal narrowing. In the United States, approximately 200,000 cases are reported annually, with adults more commonly ingesting corrosive substances intentionally compared to children. Long-term complications may include the development of esophageal squamous cell carcinoma.

AIM OF THE STUDY

The aim of this study is to emphasize the importance of early diagnosis and treatment of caustic esophageal injury to prevent severe complications. It is crucial to address esophageal perforation and narrowing effectively through interventions such as endoscopic dilation, stent placement, or surgical methods to widen the esophageal lumen and alleviate dysphagia. Additionally, monitoring for long-term complications like squamous cell carcinoma through regular endoscopic examinations is vital.

MATERIALS AND METHODS

The patient's case involved an initial presentation of dysphagia and a history of caustic esophageal injury. Diagnostic procedures included upper endoscopy to assess the extent of esophageal narrowing. Despite multiple attempts at esophageal dilation, the patient faced limited success. The approach focused on attempting various interventions and monitoring for long-term complications.

CONCLUSIONS

Early diagnosis and treatment are critical in managing caustic esophageal injury to prevent severe outcomes such as esophageal perforation and narrowing. Effective management

strategies include endoscopic dilation, stent placement, and, if necessary, surgical interventions. Ongoing monitoring for potential long-term complications, including squamous cell carcinoma, through regular endoscopic examinations and close collaboration with a gastroenterologist is essential for optimal patient care.

Title: The history of patient with recurrent strokes and pulmonary artery embolism despite receiving anticoagulation therapy for atrial fibrillation.

Author(s): Paulina Hnatuśko, Aleksandra Busłowska

Tutor(s): Anna Lisowska, MD, PhD, DSc

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pulmonary embolism is the third leading cause of death among cardiovascular conditions, following coronary artery disease and ischemic stroke. It occurs due to the abrupt blockage or constriction of the pulmonary artery or its branches by embolic material. In the case of a "saddle" embolus in the main pulmonary artery, there is usually the presence of sudden severe substernal pain, as well as severe dyspnea accompanied by symptoms of acute pulmonary heart disease and shock. Treatment approaches for pulmonary embolism vary depending on the risk of death associated with the condition. In instances of low risk, initial administration of low molecular weight heparin is recommended, followed by the selection of a medication from the NOAC group.

AIM OF THE STUDY

The aim of this study is to analyze the occurrence of thromboembolic events in patients with atrial fibrillation despite anticoagulant treatment and to discuss the diagnostic and therapeutic approaches to managing pulmonary embolism. This case highlights the need for careful evaluation and management strategies in patients with a history of atrial fibrillation and ongoing anticoagulant therapy.

MATERIALS AND METHODS

The case report involves an 86-year-old patient with a history of paroxysmal atrial fibrillation treated with rivaroxaban. On December 28, 2023, the patient experienced an ischemic stroke caused by cerebral artery embolism, followed by a cerebellar ischemic stroke 10 days later. The patient was also diagnosed with hypertension and heart failure with preserved left ventricular ejection fraction. On January 11, 2024, the patient was admitted to the Department of Cardiology and Internal Medicine with Cardiac Intensive Care Unit at the University Clinical Hospital in Bialystok. Pulmonary embolism was diagnosed after central pulmonary features were visualized in angio-CT as a "saddle embolus". The patient reported experiencing dyspnea for the past 3 months. Based on the PESI scale, a diagnosis of low-risk pulmonary embolism was made. Doppler ultrasound examination of the lower limb veins did not reveal signs of thrombosis.

CONCLUSIONS

Despite receiving prior anticoagulant therapy, the patient experienced complications related to atrial fibrillation, including strokes, which are more frequent and result in greater disability in the context of arrhythmias compared to strokes in patients without confirmed fibrillation. This case underscores the importance of comprehensive analysis and monitoring for potential

thromboembolic events during atrial fibrillation, even with ongoing anticoagulant treatment. It also highlights the need for thorough diagnostic and therapeutic approaches to effectively manage pulmonary embolism.

Title: Acute myeloid leukemia type differentiation: immunotyping and blood parameters

Author(s): Salem Hamdan 1, Julia Foremniak 1, Maja Rosiak 1

Tutor(s): Mgr Milena Małecka-Giełdowska 2,3

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Acute promyeloid leukemia (APL or AML M3) is a subtype of acute myeloid leukemia. It is characterized by abnormal accumulation of promyelocytes in blood and bone marrow. PML is usually accompanied by anemia, thrombocytopenia, leukocytosis or leukopenia. Immunophenotyping shows high expression of CD13, CD33, CD64, CD117 and no expression of HLA-DR, CD11b, CD11c, CD14 and CD34.
Acute myelomonocytic leukemia (AMML or AML M4) is classified by WHO as “AML not otherwise specified”. It is diagnosed when the populations of myeloblasts and monoblasts both exceeds 20% of WBC in bone marrow. Cells of monocytic line are HLADR+, CD33+, CD36+.

AIM OF THE STUDY

MATERIALS AND METHODS

CONCLUSIONS

The first blood count presented leukopenia WBC 3.46x103/ul, elevated count of immature granulocytes IG 0.29x103/ul and signs of anemia RBC 3.95x106/ul; HGB 11.8 g/dl. After 21 days results drastically changed. Blood count presented : WBC 44.63x103/ul, IG 26.97 x103/ul, NEUT 11.52x103/ul; MONO 3.31x103/ul; RBC 3.37x106/ul; HGB 10.1 g/dl, PLT 70x103/ul. Signs of kidney failure appeared eGFR 35 ml/min/1,73m2. Biochemical parameters were abnormal: CRP 122mg/l; GGTP 172U/l; ALP 205U/l; NT-proBNP 560pg/ml; Fe 41ug/ml; TFS 208mg/dl; ferritin 6333ng/ml; folic acid 3.4ng/ml; B12 437 pq/ml. The patient was diagnosed as CMV-IgG, EBV VCA-IgG, EBV EBNA-IgG positive. In blood smear promyelocytes with basophilic granules constituted 50% of cells. Immunophenotyping results were as follows. Blood cells im. The patient was diagnosed with AMML, following the results of immunophenotyping. Considering the acute onset of AMML, early detection and treatment is vital in ensuring survival and reducing the chance of complications.

Title: A case of a patient with graft-versus-host disease leading to multi-organ failure and intravascular hemolysis

Author(s): Aleksandra Kumorek 1

Tutor(s): Milena Małecka-Giełdowska 2,3

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Intravascular hemolysis is the process of disintegration of erythrocytes directly in the lumen of vessels or in solid organs, having immunizing or non-immune causes. Laboratory tests confirm the breakdown of red blood cells and are useful in differentiating intra- and extravascular hemolysis. The laboratory takes necessary measures to determine the presence and causes of hemolysis.

AIM OF THE STUDY

MATERIALS AND METHODS;A 68-year-old woman had a liver transplant in 2022 due to cirrhosis. The patient had autoimmune hepatitis and primary sclerosing cholangitis. Due to multi-organ failure resulting from decompensation of transplanted liver failure, the patient was referred to the intensive care unit. In 2023, a kidney transplant and a second liver transplant were performed. The patient developed cardiorespiratory failure. Based on the laboratory test results, lactic acidosis was diagnosed (pH 6,818, pCO2 59 mmHg, HCO3- 9 mmol/l). Biochemical tests showed hyperphosphatemia (2,62 mmol/l), hyperkalemia (5,4 mmol/l), significantly increased activity of aspartate aminotransferase (35544U/l), alanine aminotransferase (4496 U/l), lactate dehydrogenase (23130 U/l), alkaline phosphatase (3080 U/l), gamma-glutamyltranspeptidase (196 U/l), hyperbilrubinemia (conjugated bilirubin 1,39 mg/dl, unconjugated bilirubin 13,61 mg/dl), increased troponin (1013 ng/l), myoglobin (24400 ng/ml), NT-proBNP (131024 pg/ml), increased creatinine (1,45 mg/dl) and renal failure stage G3b (eGFR 37ml/min/1,73m2), increased concentrations of procalcitonin (9,24 ng/ml), C-reactive protein (86,8 mg/l) and ammonia in plasma (163,9 µg/dl). Coagulation tests showed prolonged prothrombin time (25 s), INR (2,15), aPTT (58,4 s), D-dimer >10000ng/ml, fibrinogen concentration <30mg/dl due to acute liver failure. Blood count showed the presence of leukopenia (2,84x103/µl) with lymphopenia (0,51 x 103/µl), monocytopenia (0,04x103/µl) and immature granulocytes (0,21x103/µl), life-threatening normocytic anemia (RBC 1,93 x 106/µl, HGB 5,4 g/dl), severe thrombocytopenia (4x103/µl), and regeneration of the red blood cell system (NRBC 0,16 x103/µl). Laboratory test results changed dynamically at intervals.

CONCLUSIONS;

In this case, the patient was diagnosed with rejection of the transplanted organ due to graft-versus-host disease (GvHD), which led to intravascular hemolysis confirmed by laboratory tests.

Title: How to treat acute mesenteric ischemia in hemodynamically unstable patient? A case report

Author(s): Maria Latacz

Tutor(s): dr hab. Paweł Latacz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Acute mesenteric ischemia (AMI) is a rare but life-threating emergency. Currently recommended in AMI hybrid procedure (laparotomy and endovascular recanalization) is not adequate for critically ill patients. Here, we present a case of percutaneous retrograde recanalization of an occluded superior mesenteric artery (SMA) in a hemodynamically unstable patient.

AIM OF THE STUDY

MATERIALS AND METHODS 82-year-old woman underwent thrombendarterectomy of femoral artery due to critical lower limb ischemia. Postoperatively, she was deteriorating (gastrointestinal bleeding, circular decompensation) and eventually she presented acute abdominal symptoms. CT angiography indicated complete occlusion in the proximal part of the SMA (3mm from the aorta) yet patent celiac trunk and its branches (wide common hepatic artery (CHA) and narrow gastroduodenal artery (GDA)). Catheter angiography: When advancing the catheter to the CHA, only proximal part of the SMA was revealed (inflow though the GDA). Since the origin of the SMA was not visible, it was decided to recanalize this artery in a retrograde manner. The coaxial Progreat microcatheter (Terumo, Tokyo, Japan) was navigated through the GDA to the SMA distally from the occluding plaque. Next, the highly calcified occlusion was crossed with 0.014", then 0.018" guidewires. 6F introducer sheath was introduced and placed at the level of the SMA to catch the guidewire with a loop. Then, 2.5/20 mm and 4.0/20 mm Trek coronary dilatation catheters (Abbott Vascular, Abbott Park, IL, USA) were used to predilate the plaque. Finally, the 6.0/38 mm Omnilink Elite balloon-expandable stent (Abbott Vascular, Abbott Park, IL, USA) was implanted. Although the procedure was technically successful, the woman died due to cardiogenic shock two days after SMA recanalization.

CONCLUSIONS

Percutaneous retrograde recanalization of the SMA might be a good option for hemodynamically unstable patients. However, it should be noted that in this case the final clinical outcome was unfavourable.

Title: Crush-stenting in a renal aneurysm – a case report

Author(s): Maria Latacz

Tutor(s): dr hab. Paweł Latacz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Aneurysms are pathological dilatations, and the aim of the therapy is to prevent rupture. Despite the advances in technology and increasing interventional radiology expertise, the management of some aneurysms remains a challenge. Here, we present a case of a renal aneurysm treatment with a technique adopted from coronary angioplasty - crush-stenting

AIM OF THE STUDY

MATERIALS AND METHODS

A 43-year-old female with a history of difficult-to-control hypertension was diagnosed with a 2.8-cm fusiform (type II) aneurysm of the left renal artery (RA) and its two branches (main and side branches). To keep both branches patent and minimaze kidney damage, crush-stenting with embolization was chosen. First, vascular access was achieved using a 6F introducer sheath. Then, two guidewires were used: one for each branch. Initial stent implantation was unsuccessful, so a 2.5/20 mm mini-Trek coronary dilatation catheters (Abbott Vascular, Abbott Park, IL, USA) were introduced into one of the branches and with these balloons was inflated to 6 atm. Next, the guidewire was repositioned gently to remove its loop from the aneurysm. After removing the balloon, a Xience 3x38 stent (Abbott Vascular, Abbott Park, IL, USA) was used for side branch and a Xience stent was introduced 4x38 (Abbott Vascular, Abbott Park, IL, USA) to the main branch. The Xience 3x38 stent was expanded - inflation up to 11 atm, then after withdrawing the balloon relaxation to 20 atm. After removing the stent system from the side branch, the stent in the main branch was expanded - inflations up to 10-24 atm. Finally, a Progreat microcatheter (Terumo, Tokyo, Japan) was advanced through the stent eye. The end of the microcatheter was located in the middle of the aneurysm cavity. Six embolization loops were introduced to completely fill the aneurysm cavity. It was confirmed that the aneurysm was occludded without disturbing the blood flow through the main and side branches of the RA. The patient had an uncomplicated postoperative course.

CONCLUSIONS

This case shows the possibility of using equipment and techniques dedicated to coronary arteries pathologies to treat renal aneurysm with good results.

Title: A case of severe metformin-associated lactic acidosis. The role of renal replacement therapy.

Author(s): Paulina Lewandowska

Tutor(s): Mateusz Zawadka MD, PhD. Paula Dudek MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Metformin inhibits mitochondrial transport chain complex-I, leading to NADH accumulation, crebs cycle backlog, disrupting ATP generation and promoting pyruvate conversion to lactate, which causes lactic acidosis. Metformin-induced lactic acidosis (MILA) primarily occurs in acute overdose or chronic accumulation, especially in renal failure.

AIM OF THE STUDY

Metformin-associated lactic acidosis (MALA), can arise during severe illnesses, compounded by factors such as renal issues and alcoholism. Metformin-unrelated lactic acidosis (MULA) involves metformin as a bystander, posing diagnostic challenges. They are potentially fatal conditions marked by elevated serum lactate in metformin-exposed patients.

MATERIALS AND METHODS

A 47-year-old patient was admitted to the hospital due to severe lactic acidosis (pH 6.9, lac 16 mmol/L,) and acute kidney injury (oliguria, sCr 13,13 [mg/dl]). The patient's medical history included type 2 diabetes mellitus, managed with metformin and a sulfonylurea derivative for 3-4 years. Additional medical issues were diabetic foot syndrome, hypertension, asthma, hepatic steatosis, obesity, insomnia, nicotine addiction, and obstructive sleep apnea. Before hospital admission, the patient had experienced an episode of diarrhea and starvation during a period of binge drinking. Metformin poisoning was suspected. To maintain adequate minute ventilation, the patient received High-Flow Nasal Cannula (HFNC) therapy. Treatment included intravenous crystalloids, bicarbonate, and urgent hemodialysis. The initial Continuous Venovenous Hemodiafiltration (CVVHD) was switched to Sustained Low-Efficiency Dialysis (SLED) due to insufficient improvement in the acid-base status. The patient responded well to the supportive therapies and achieved full renal recovery one week after admission. The patient was discharged in good general condition, with a revised antihyperglycemic medication regimen.

CONCLUSIONS

In summary, in cases of severe lactic acidosis in metformin-treated patients, consider MALA. Rapid diagnosis and patient monitoring are crucial in managing this condition, as the patient's condition may deteriorate rapidly. Management of metformin toxicity involves careful attention to airway, breathing, and circulation, with consideration for ventilator management, along with control of glucose levels and fluid therapy. Severe cases may require hemodialysis. Particularly, the utilization of SLED demonstrates enhanced outcomes in patients with MALA, surpassing those treated with the standard CVVHD.


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Title: Intracranial aneurysms in patients after radiotherapy or radiosurgery: meta-analysis of 87 cases

Author(s):

Tutor(s): Tomasz Szmuda, MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

AIM OF THE STUDY

Our study aimed to identify potential risk factors for the rupture of IAs in patients after brain RT and radiosurgery.

MATERIALS AND METHODS

Meta-analysis was performed according to the PRISMA guidelines. Databases PubMed, EBSCO/Medline, Web of Science and Google Scholar were performed to extract all cases of aneurysms after RT with keywords “radiation”, “radiotherapy”, “intracranial”, “aneurysm”. The Joanna Briggs Institute Critical Appraisal Checklist for Case Reports was used to evaluate the quality of case reports. Aneurysms were divided into unruptured and ruptured groups. Univariate analysis was performed to calculate statistics.

CONCLUSIONS

The most important risk factors of rupture of IAs after RT are posterior circulation origin, NPC diagnosis, cumulative dose, and combined RT. The awareness of risk factors of formation of post-RT IAs is crucial in early diagnosis. Our study emphasizes the significance of assessing coexisting potential post-RT vasculopathy in choosing optimal treatment of IAs.

Title: Clinical and genetic characteristics of Parkinson's disease patients with substantia nigra hyperechogenicity.

Author(s): Alicja Sikorska, Piotr Szukało, Łukasz Milanowski

Tutor(s): Łukasz Milanowski MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

AIM OF THE STUDY

The aim of the study is to evaluate clinical and genetic factors associated with SN hyperechogenicity in PD patients compared to PD patients without SN hyperechogenicity.

MATERIALS AND METHODS

All patients underwent a general and neurological examination performed by experienced movement disorders specialists. The transcranial ultrasonography was performed by certified physicians. The Sanger sequencing and MLPA techniques for LRRK2, PRKN, DJ1, PINK1 and SNCA genes (associated with Parkinson's disease) were conducted for all study subjects.

CONCLUSIONS

Transcranial ultrasonography seems to be a helpful tool in Parkinson's disease diagnosis. The study shows differences in the age of patients and the age of PD onset in relation to SN echogenicity. The analyzed genetic variants seem not to be specific for the substantia nigra hyperechogenicity.

Title: Intracerebral hemorrhage in a patient with mechanical heart valve

Author(s): I.Zajkowska, A.Piotrowska, J.Wiatr, P.Niczyporuk

Tutor(s): dr n. med. Agata Czarnowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

BACKGROUND: Intracerebral hemorrhage is a serious, life-threatening complication of sudden hemorrhage into brain tissue, requiring prompt diagnosis and coordinated treatment. Patients with mechanical heart valves, treated with oral anticoagulants, are a group particularly susceptible to this type of incident due to the risk of bleeding. We present the case of a 69-year-old patient with a mechanical heart valve who suffered an intracerebral hemorrhage.

CASE REPORT: The patient was admitted to the Department of Neurology due to sudden numbness and weakness of the right limbs, together with speech disorders. During the first several hours of hospitalisation, his neurological condition deteriorated. Neuroimaging studies showed an enlargement of the hemorrhage observed on admission with significant compression of cerebral structures. Therefore, an emergency decompressive creniectomy

was performed. After the operation, the patient required long-term intensive care due to respiratory and hemodynamic instability. Considering the presence of a mechanical valve, efforts were made to carefully adjust anticoagulation therapy, mindful of the risk of further bleeding in the brain.

CONCLUSIONS: Managing intracerebral hemorrhage in patients with mechanical heart valves presents a clinical challenge, as it requires balancing the risks of bleeding and thrombotic complications. Treatment approaches vary significantly, particularly concerning decisions regarding anticoagulant therapy inclusion. A personalized, case-specific strategy is essential, considering the risks and advantages of anticoagulation. In patients with mechanical heart valves, a thorough evaluation of all risk factors is imperative, guiding tailored therapeutic choices.

AIM OF THE STUDY

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MATERIALS AND METHODS

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CONCLUSIONS

Managing intracerebral hemorrhage in patients with mechanical heart valves presents a clinical challenge, as it requires balancing the risks of bleeding and thrombotic complications. Treatment approaches vary significantly, particularly concerning decisions regarding anticoagulant therapy inclusion. A personalized, case-specific strategy is essential, considering the risks and advantages of anticoagulation. In patients with mechanical heart valves, a thorough evaluation of all risk factors is imperative, guiding tailored therapeutic choices.

Title: Neuroimaging of herpetic encephalitis: a case of inflammatory vasculitis detected by transcranial color-coded duplex sonography

Author(s): Gražina Matulaitytė

Tutor(s): prof. Jurgita Valaikiene MD, PhD; Clinic of Neurology and Neurosurgery, Faculty of Medicine, Vilnius

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INTRODUCTION

AIM OF THE STUDY

Herpetic encephalitis is a rare but dangerous inflammation of the brain parenchyma caused by the Herpes simplex virus type 1 (HSV-1) and type 2 (HSV-2). Clinically it is characterized by acute fever, focal neurological symptoms, headache and mental confusion. Herpes simplex encephalitis (HSE) is a life-threatening condition, therefore urgent diagnosis and treatment are crucial for improving patient outcomes.

MATERIALS AND METHODS

A 58-year-old man was presented to emergency department due to a week-long febrile fever, headache, acute onset of left arm weakness, coordination impairment and confusion. Neurological examination revealed left arm paresis, hemiataxia, and positive meningeal signs. Urgent cerebral computed tomography showed a hyperdense right middle cerebral artery (MCA); however, no MCA clot was visualized by computed tomography angiography. Laboratory tests revealed elevated protein and lymphocytic pleocytosis in cerebrospinal fluid (CSF). Transcranial color-coded duplex sonography (TCCS) examination showed elevated velocities in both MCAs (more on the right), raising suspicion of inflammatory vasculitis. CSF PCR confirmed HSV-1 infection of the central nervous system. Subsequent magnetic resonance imaging, T2 fluid-attenuated inversion recovery sequence, revealed asymmetric abnormal hyperintensity predominantly in the right temporal lobe, limbic system, less pronounced in the right frontal lobe, and left insular cortex, angiography - signs of vasculitis in the right MCA. During the course of treatment with intravenous acyclovir and dexamethasone, as well as mannitol infusion, neurological signs regressed. The TCCS showed positive dynamics. The patient was discharged. Three months later, repeated TCCS showed no abnormalities

CONCLUSIONS

Due to the fact that the prognosis primarily relies on early initiation of treatment, immediate and precised diagnosis is crucial. Head magnetic resonance imaging may not always be available urgently, so it is important to consider alternative neuroimaging modalities. Hence, urgent bedside TCCS holds significance as a reliable non-invasive method which helps to identify acute encephalitis induced changes in the brain vessels and monitor treatment‘s efficacy. In this case, inflammatory vasculitis was recognized as a manifestation of HSE.

Title: Unusual presentation of Herpes Zoster in Patient Receiving JAK inhibitors for Ulcerative Colitis

Author(s): Daunytė D, Gerasimovič G, Tekoriute P, Kiudelis G

Tutor(s): Prof. Gediminas Kiudelis

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Elevated susceptibility to HZ has been noted among individuals with immune-related conditions like inflammatory bowel disease, with a heightened risk potentially compounded by the administration of immunosuppressive treatments. One emerging treatment approach for such conditions involves the inhibition of Janus kinase (JAK). JAK inhibitors have been associated with HZ events in patients across several indications. An increased risk of HZ has been noted in patients receiving immunosuppressive therapies for UC, including tofacitinib. The lesion usually involves one or two dermatomes, most commonly the chest ,less frequent involvement of the neck and the trigeminal area.

AIM OF THE STUDY

MATERIALS AND METHODS

A 35-year-old male presents with fever, severe Elevated susceptibility to HZ has been noted among individuals with immune-related conditions like inflammatory bowel disease, with a heightened risk potentially compounded by the administration of immunosuppressive treatments. One emerging treatment approach for such conditions involves the inhibition of Janus kinase (JAK). JAK inhibitors have been associated with HZ events in patients across several indications. An increased risk of HZ has been noted in patients receiving immunosuppressive therapies for UC, including tofacitinib. The lesion usually involves one or two dermatomes, most commonly the chest ,less frequent involvement of the neck and the trigeminal area.oral and buccal pain with redness, edema and sensitization on the right side of the face. Atypical presentation of HZ infection was suspected. From medical history it is known that severe ulcerative colitis, pancolitis, was diagnosed in 2021. The patient got conventional treatment with intravenous glucocorticoids, mesalazine and azathioprine but remission was not achieved. Starting 2022, treatment with vedolizumab and adalimumab was initiated however a sufficient clinical response was not achieved. It was decided to adjust the treatment to tofacitinib which resulted in partial clinical response. The patient was hospitalized because of an exacerbation of UC and a trigeminal HZ infection. A stool sample for C. difficile test and blood cultures were taken. In blood tests, there were elevated inflammation markers, leukocytosis, and slight anemia. Polymerase chain reaction testing of the patient's serum confirmed the presence of VZV DNA. For trigeminal HZ treatment, intravenous Acyclovir was given, resulting in significant clinical improvement. For pain control patient received Gabapentin and Tramadol. Because C. difficile toxin was found in the stool sample, the patient received oral Vancomycin.

CONCLUSIONS

Patients with UC have an increased risk of HZ compared to the general population, and this risk can be increased using immunosuppressive therapy. Antiviral therapy is most beneficial for those with complications of HZ or who are at increased risk of complications, such as older individuals and immunocompromised individuals. It should be initiated as soon as possible, generally within 72 hours of the onset of the rash, because trigeminal HZ infection may lead to potentially severe conditions if unrecognized and untreated.

Title: Diagnostics of orthostatic headaches

Author(s): Jan Topczewski, Gabriel Majewski

Tutor(s): Sebastian Bojanowski, M.D.

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Orthostatic headaches typically result from low cerebrospinal fluid (CSF) pressure due to a post-dural-puncture-leak or spontaneous intracranial hypotension (SIH). The CSF leak in SIH is mainly caused by a dural tear or a leaking meningeal diverticulum and is more prevalent in patients with connective tissue disorders. We present a rare case of a young man, exposed to frequent trauma, with SIH, probably resulting from the CSF-venous fistula (CVF)

AIM OF THE STUDY

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MATERIALS AND METHODS

A 30-year-old male was referred to the neurological department due to chronic headaches, which persisted for a few months and increased recently. The pain was located in the occipital region, radiated to the front, and was accompanied by neck pain. Exacerbating factors included erect posture, nodding, laughing, and coughing. He was an amateur boxer and had a history of losing consciousness during a boxing fight 11 years earlier. The neurological examination and blood tests were normal. Magnetic resonance imaging (MRI) of the brain revealed the typical signs of SIH - engorgement of venous sinuses, pachymeningeal enhancement, enlargement of the pituitary gland, and acquired tonsillar ectopia. MRI myelography was performed to find a CSF leak. The imaging showed the extradural CSF signal on the left side of the spine at the level of T1-T2, which was considered the most probable location of the CSF leak. The extradural location of the signal suggested the presence of CVF. Moreover, the CSF was also detected in the epidural space at the cervical and lumbar spine levels. The patient was referred to the neurosurgery department to perform an epidural blood patch (EBP) as a first-line treatment.

CONCLUSIONS

SIH is a rare disorder but should always be considered in the differential diagnosis of orthostatic headaches, especially in patients exposed to frequent traumas. MRI myelography can help identify the location of the CSF leak, which improves the chances of successful treatment with EBP. A definitive diagnosis of CVF is complicated and is usually performed only after the first-line treatment failure

Title: Cerebrospinal fluid leaks as a cause of orthostatic headache

Author(s): Małgorzata Resiak, Gabriel Majewski

Tutor(s): MD Sebastian Bojanowski

Affiliation(s): kr

Tutor(s) Affiliation(s):

INTRODUCTION

Spontaneous intracranial hypotension (SIH) is a result of cerebrospinal fluid (CSF) leaks. The condition may manifest itself with orthostatic headache, nausea, double vision or hearing disturbances. It most often concerns middle-aged people but may be present at any age. What can be important, trauma or medical procedures can not precede the diagnosis of SIH. In this case report we present and discuss a woman who presents orthostatic headache due to CSF leaks at the thoracic spine.

AIM OF THE STUDY

MATERIALS AND METHODS

A 41-year-old woman was admitted to the Neurology Clinic due to a crushing, bilateral postural headache. It was accompanied by tinnitus, feeling of congested ears, concentration disturbances, and a single incident of vomiting. In the period preceding the onset of the headache, the patient had an episode of self-limiting pain localized in the upper thoracic spine radiating to the scapulae which was not triggered by any sudden movement or trauma. Neurological examination did not show any abnormalities except hyperesthesia of the right side of the face. Magnetic resonance imaging (MRI) of the brain showed meningeal enhancement and thickening up to 2 mm which intensified with contrast which can indicate CSF deficit. Additionally, mammilopontine distance was reduced, pontomesencephalic ange sharpened and CSF effusion was seen within the pituitary fossa. Myelography revealed disc extrusions at the Th8/Th9 and Th2/Th3 levels and epidural fluid spaces. Perforation of the dura mater by Th8/Th9 disc herniation was the most probable cause of symptoms and the patient was referred to Neurosurgery Department for an epidural patch. It was performed with no complications and now the patient does not report any postural headache.

CONCLUSIONS

This case highlights the importance of being vigilant for signs of spontaneous intracranial hypotension in female patients as they often may be underdiagnosed due to non-specific symptoms. Especially, doctors should always consider SIH when a postural headache is reported by a patient with disc herniation.

Title: When climbing stairs is challenging - Myotonic dystrophy type 2 - a case report

Author(s): Marta Galicka, Julia Kobylińska

Tutor(s): Katarzyna Kapica-Topczewska MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Myotonic dystrophy (DM) is a globally prevalent inherited muscular dystrophy that manifests as progressive stiffness and muscle weakness. The disease has two main types: DM1 and the milder form, DM2. First type is associated with 'CTG' repeat expansions in the DMPK gene on chromosome 19, while the second is connected to 'CCTG' repeat expansions in the CNBP gene on chromosome 3.DM2 is also referred to as proximal because it involves the neck flexors, hip flexors, and extensors. These symptoms may be accompanied by cataracts,heart disorders, and endocrine system

AIM OF THE STUDY

MATERIALS AND METHODS

A 58-year-old woman was admitted to the Department of Neurology due to progressive difficulty climbing stairs and standing up from a reclining position over the past twelve years. Her medical history revealed cataract surgery eleven and ten years before this hospitalization, as well as a degenerative spine disorder, hypercholesterolemia, and excessive sweating. In the family history, her mothers' siblings had experienced difficulty walking. Neurological examination confirmed a myopathic syndrome of the pelvic girdle and a positional tremor of the left upper limb. Electromyography (EMG) revealed complex repetitive and myotonic discharges. Echocardiography and audiometric testing showed no abnormalities. Laboratory tests indicated elevated creatine kinase levels and hypercholesterolemia. DNA tests were made and turned out to be characteristic for DM2. The patient was referred to a genetic outpatient clinic for consultation

CONCLUSIONS

The progressive myopathic syndrome, EMG findings, and premature cataracts in the mid-forties contributed to the DM2 picture

Title: SURGICAL MANAGEMENT AND OUTCOMES IN A 7 WEEK OLD FEMALE DIAGNOSED WITH PIERRE ROBIN SEQUENCE - CASE REPORT.

Author(s): Dominika Lech

Tutor(s): dr n. med. Krzysztof Dowgierd, lek. Patryk Kołodziejski

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pierre Robin sequence (PRS) is a rare congenital condition, classically characterized by the triad of micrognathia, glossoptosis, and upper airway obstruction. It is commonly associated with cleft palate. PRS may be an isolated finding or a part of a genetic syndrome. It occurs in approximately 1 out of every 8,500 to 14,000 newborns a year. The predominant clinical consequences of PRS are tongue-based airway obstruction and feeding difficulties, which often lead to placement of the nasopharyngeal airway and the nasogastric tube. Severe cases of PRS require surgical management. The primary surgical intervention in patients diagnosed with PRS is mandibular distraction osteogenesis

AIM OF THE STUDY

MATERIALS AND METHODS

A 7-week-old female infant admitted to Regional Specialized Children's Hospital in Olsztyn for the surgical treatment of micrognathia and upper airway obstruction. The medical history of the patient includes: born from the fifth pregnancy, fourth delivery at 35 weeks via cesarean section, with a birth weight of 2160g and an Apgar score of 5/6/6/6., diagnosed with Pierre Robin sequence (PRS) with complete cleft palate and reduced muscle tone. A polysomnography was ordered. The results showed severe respiratory disorder, leading to a decrease in SpO2 and hypercapnia. Patient was qualified for bilateral mandibular distraction osteogenesis. The day after surgery first distraction was performed at a rate of one turn, twice a day. The distraction continued during hospitalization, then at the patient's home. In the following days, a gradual improvement in the general condition of the patient was observed. The patient was transferred from the ICU to the Pediatric Ward a week after the surgery.

CONCLUSIONS

The obtained results indicate that the mandibular distraction osteogenesis, performed in infants diagnosed with PRS, is an effective method of relieving air passage hindrance and feeding difficulties, fixing face beauty and avoiding tracheostomy.

Title: Congenital diaphragmatic hernia as a cause of gastrointestinal bleeding in infant.

Author(s): Konstancja Ustymowicz, Zuzanna Roszkowska, Maria Orzeł

Tutor(s): Dariusz Madajczak

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The coexistence of congenital diaphragmatic hernia (CDH) and omphalocele (OM) is extremely rare, especially in cases without comorbid genetic anomalies. Large diaphragmatic defect and the presence of the liver in diaphragmatic hernia is associated with higher mortality.

AIM OF THE STUDY

MATERIALS AND METHODS

A male neonate was born from G2P1 at 34 weeks of pregnancy via a caesarian section, and received 7-8 points on the Apgar scale. He was prenatally diagnosed with left-sided CDH and giant omphalocele (GOM). A prenatal cytogenic test revealed a normal male karyotype. After birth, he was intubated and mechanically ventilated with high FiO2 due to pulmonary hypertension (PH). The patient was qualified for surgical correction of CDH and GOM. During the operation, a spherically shaped liver was found in GOM. CDH was described as Bochdalek hernia type D. Diaphragm hernia was repaired with a path. A SILO bag was sewn into the abdominal cavity, and the volume of the SILO bag was reduced every day. After seven days, the operation to restore the continuity of the abdominal wall was successfully carried out.
Aortic arch hypoplasia with tubular aortic coarctation and PH was found in the first echocardiography exam. PGE1 infusion was administered till the second operation. After surgical repair, follow-up echocardiography excluded aortic arch hypoplasia, and PGE1 infusion was stopped. The ductus arteriosus was closed spontaneously after that.
Due to chronic respiratory failure, a tracheostomy was performed, after that the neonate was ventilated via a tracheostomy tube. On the follow-up examination, the right lung was well inflated with good blood circulation, but the left lung was still compressed and hypoplastic. Initially, he required total parenteral nutrition and then tube feeding. The patient's condition was improving and he was discharged home at 4 months of age, breathing via a tracheostomy tube and eating via a feeding tube.

CONCLUSIONS

Prenatal diagnosis of CDH and OM is necessary to ensure proper care for the newborn. The presence of the liver in OM may be associated with better outcomes in patients with left-sided CDH. However, a large defect in the diaphragm means that the muscles cannot perform sufficient breathing activity, leading to respiratory failure. Furthermore, neonates with comorbid CDH and OM develop complicated management problems due to PH and/or pulmonary hypoplasia.


Congress for You
BIM
10 - 12 MAY

Title: A very rare case of tongue squamous cell carcinoma in a 17-year-old patient

Author(s): Dominika Lech

Tutor(s): dr n.med. Krzysztof Dowgierd, lek. Zuzanna Sokołowska, lek. Dawid Rahimi

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Squamous cell carcinoma (SCC) of the tongue typically manifests in individuals over the age of 50, often associated with traditional risk factors such as tobacco and alcohol consumption. However, its occurrence in young patients, particularly in the absence of these risk factors, is exceedingly rare. Here, we present a case of SCC of the tongue in a 17-year-old female patient with a notable medical history of prior oncological conditions.

AIM OF THE STUDY

MATERIALS AND METHODS

The patient, a 17-year-old female, was admitted to the Regional Specialized Children's Hospital in Olsztyn for evaluation and management of squamous cell carcinoma of the tongue. The lesion was first noted as an ulceration at the lateral border of the tongue in May 2022, with prior changes on the tongue characterized by leukoplakia and hypertrophy of the mucous membrane. A biopsy confirmed the diagnosis of SCC G2 of the tongue. Imaging studies revealed a mass lesion on the right border of the tongue, measuring approximately 3.2 cm. Notably, the patient had a complex medical history, including previous oncological issues: treatment for a primitive neuroectodermal tumor of the spinal canal (Th6-Th11) at the age of 6. Additionally, she experienced metastatic spread to the spinal canal (Th3/Th4) and right lung, which were treated with chemotherapy. Furthermore, she had a history of acute myeloid leukemia M4 subtype, which was treated with chemotherapy and subsequently went into remission after an allogenic hematopoietic stem cell transplant. Moreover, the patient developed chronic graft-versus-host disease following the transplant, manifesting as scleroderma involving the skin, mucous membranes, liver, and eyes. The patient also had multiple comorbidities, including steroid-induced osteoporosis, primary hypogonadotropic hypogonadism, hypothyroidism, adrenal insufficiency, and growth hormone deficiency.

CONCLUSIONS

In summary, SCC of the tongue is an exceedingly rare occurrence in young patients, particularly those devoid of traditional risk factors. This case emphasizes the necessity of investigating potential genetic predispositions and underlying pathophysiological mechanisms in young individuals presenting with atypical and multiple malignancies. Further elucidation of these mechanisms is imperative for enhancing our understanding and management of such cases in clinical practice

Title: Case Report: Surgical Interventions for Managing Osteopetrosis in Adolescents

Author(s): Jeremi Matysek

Tutor(s): DR N. MED. KRZYSZTOF DOWGIERD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Osteopetrosis, also known as "marble bone disease," encompasses various hereditary metabolic bone disorders. These conditions disrupt normal bone growth and remodeling, resulting in widespread osteosclerosis. This increased density makes bones more prone to fractures and can also lead to pancytopenia and, in severe cases, issues such as cranial nerve compression and enlarged liver and spleen. We present a case of a 14-year-old female diagnosed with osteopetrosis who underwent extensive surgical interventions due to complications arising from the disease.

AIM OF THE STUDY

The patient, a 14-year-old female, was admitted to the Regional Specialized Children's Hospital in Olsztyn for evaluation and management of osteopetrosis complications. Physical examination upon admission revealed cachexia, muscle wasting, and characteristic findings associated with osteopetrosis, including grayish skin color and proptosis. Splenomegaly and hepatomegaly were noted, along with joint contractures in the lower extremities The patient medical history reveals a complex array of symptoms and treatments spanning several years, including hydrocephalus, ventriculoperitoneal shunt placement, recurrent hospitalizations for jaw inflammation and abscess formation, as well as unsuccessful attempts at bone marrow biopsy. Genetic testing confirmed pathogenic mutations in the CLCN7 gene, corroborating the diagnosis of osteopetrosis. In February 2024, the patient was admitted to the Department of Oncology and Hematology due to severe anemia requiring blood transfusions. Surgical intervention in the Pediatric Head and Neck Surgery Clinic - Maxillofacial Surgery Department in Olsztyn involved reconstruction of soft tissue defects in the anterior segment of the maxilla, utilizing a submandibular flap harvested from the left mandibular angle. Osteotomies were performed to remove necrotic bone tissue, followed by meticulous closure of the defect with flap inset. Postoperatively, the patient was weaned off analgosedation and extubated successfully.

MATERIALS AND METHODS

CONCLUSIONS

This case highlights the challenges in managing complications of osteopetrosis and the multidisciplinary approach required to address its diverse manifestations. Further research and collaboration are necessary to optimize treatment strategies and improve outcomes in patients with this rare genetic disorder.


Congress for You
BIM
10 - 12 MAY

Title: Effective Management of Severe Pulmonary Hypertension and Pulmonary Embolism in a Teenage Patient

Author(s): Filip Bossowski, Magdalena Skorupska, Katarzyna Anikiej.

Tutor(s): prof. zw. dr hab. n. med. Artur Bossowski, lek. Katarzyna Masłowska,dr n. med. Kornel Semeran

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pulmonary hypertension is a critical condition marked by elevated blood pressure within the pulmonary arteries. This condition can arise from a variety of causes, including pulmonary embolism, which notably increases pulmonary vascular resistance and precipitates right ventricular overload. The presented case report delves into the complexities of managing severe pulmonary hypertension triggered by pulmonary embolism in a young patient, compounded by intricate thrombotic occurrences following a recent respiratory infection.

AIM OF THE STUDY

MATERIALS AND METHODS

A 15-year-old girl was referred from a local hospital to a specialized clinic due to suspected pulmonary hypertension. She had a recent history of bronchitis treated with Augmentin, during which she experienced syncope, significant decline in exercise tolerance, and worsening respiratory symptoms. Initial evaluation revealed high NT-proBNP levels (4195 pg/ml), significant tricuspid regurgitation, and elevated pulmonary gradient (PG 70 mmHg) suggesting severe pulmonary hypertension. Diagnostic investigations including echocardiography and angio-CT confirmed the presence of a large right ventricle with pressure overload, extensive pulmonary embolism, and deep vein thrombosis. Treatment included low molecular weight heparin adjusted for anti-Xa activity, along with diuretics, passive oxygen therapy, and introduction of acenocoumarol. Over a 12-day period, the patient showed clinical improvement with decreased dyspnea, resolution of tachycardia, and a significant reduction in NT-proBNP levels.

CONCLUSIONS

This case underscores the imperative for prompt identification and a collaborative treatment strategy in managing paediatric pulmonary hypertension due to pulmonary embolism. The patient's positive reaction to bespoke anticoagulant therapy highlights the efficacy of tailored treatment approaches. Further investigation into the aetiology of thromboembolic disorders in young people is crucial for enhancing treatment guidelines and outcomes in paediatric pulmonary vascular conditions.

Title: What's behind the fever? Case report of a 4-year-old boy

Author(s): Ewa Dryl-Jarmoc, Gabriela Kuliś, Mateusz Czajkowski, Jakub Dziemiańczuk, Mateusz Zimowski

Tutor(s): dr n. med. Maria Jolanta Piotrowska-Depta

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Hyper-IgD syndrome (HIDS) is a rare, autosomal recessive autoimmune disease caused by a mutation in the MVK gene. The syndrome is characterized by recurrent fevers accompanied by other symptoms (abdominal pain, enlarged lymph nodes and spleen, joint pain and inflammation, and skin rash). Laboratory tests may show an increase in inflammatory markers, increased IgD and/or IgA levels, and increased mevalonate acid levels in urine, resulting from a deficiency of the enzyme mevalonate kinase.

AIM OF THE STUDY

MATERIALS AND METHODS

;A 4-year-old boy was admitted to the Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases UDSK due to recurring fevers for several months accompanied by lymphadenopathy, abdominal pain radiating to the loins, sore throat and swelling of the elbow and knee joints. Laboratory tests showed high inflammation parameters, as well as increased IgA and elevated slightly IgE. The differential diagnosis excluded all possible bacterial, viral, parasitic and rheumatic causes. An immunological screening panel was also performed, but it did not provide grounds for diagnosing immunodeficiency. Due to the lack of a noticeable cause for the fever, the patient was discharged home with an instruction to report urgently to the hospital if the fever reappeared. The patient was readmitted for further diagnostics regarding cyclic fever syndrome. His general condition was average, with a fever reaching 39 degrees, high CRP (176), and severe abdominal pain in the right iliac fossa. The diagnostics were in-depth, excluding hemolytic-uremic syndrome, paroxysmal nocturnal hemoglobinuria, and porphyria. Urine was also sent for enzymatic testing (GC-MS). Taking into account the increased value of mevalonic acid in the urine, the patient was referred for genetic testing (NGS method for immunohematological disorders), which revealed pathology in the MVK gene.
Based on clinical symptoms and genetic test results, the diagnosis of hyper-IgD with periodic fever syndrome (HIDS) was made. Due to the severity of symptoms, oral administration of encorton was considered necessary in addition to standard antipyretic treatment and hydration.

CONCLUSIONS

The non-specific nature of the symptoms and the multitude of causes of recurrent fevers pose a diagnostic challenge and require a number of tests to make a final diagnosis.

Title: A neonate with a rare genetic disorder, complex cardiac defect and vascular anomalies - a case report.

Author(s): Małgorzata Kamińska

Tutor(s): Justyna Grzyb MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Jacobsen syndrome is a genetically determined disease caused by a deletion of the 11q23.3-q25 band of the terminal segment located on the longer arm of the chromosome 11. It occurs with a frequency of 1: 100, 000 live births. Jacobsen syndrome is an example of a contiguous gene syndrome- a single deletion leads to a loss of two or more genes, whose loci are in close proximity on one chromosome The dominant clinical symptoms described in literature are: a distinctive phenotype (including facial dysmorphia), congenital heart defects, hematological disorders and a delay in psychomotor growth and development.

AIM OF THE STUDY

MATERIALS AND METHODS

The author presents a case of a newborn male, born at 40 weeks of gestation, who was prenatally diagnosed with: Jacobsen syndrome and a partial chromosome 20 trisomy. The child was later confirmed to have a critical complex heart defect in the form of aortic valve atresia, aortic arch hypoplasia, ventricular and atrial septal defect, and the aberrant right subclavian artery. The newborn, due to the severe clinical condition after birth (caused by cardiopulmonary insufficiency, bacterial sepsis and severe thrombocytopenia) required treatment in the Intensive Care Unit. On the 7th day of his life, due to the signs of necrotizing enteritis and a suspected gastrointestinal perforation, he was urgently transferred to another hospital for further diagnosis and treatment. This case report describes the spectrum of clinical problems, the diagnostic process and the patient treatment procedure.

CONCLUSIONS

The diagnosis of Jacobsen syndrome in a newborn is associated with a poor prognosis and is a challenge for neonatologists. This case report shows that during care of a newborn baby with a rare genetic defect, which is Jacobsen syndrome, complex care and interdisciplinary cooperation of various specialists are essential and necessary.

Title: Late-diagnosed congenital cystic lung disease in 2-year-old girl

Author(s): Nicole Klemendorf, Julia Wiatr

Tutor(s): Assoc. Prof. Beata Cudowska, Prof. Dariusz Lebensztejn

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Congenital cystic diseases of the lung are a rare but significant cause of morbidity in children and young adults presenting with respiratory distress and repeated chest infections. Some cause life threatening respiratory distress at birth while others appear late in life during pulmonary infection.

AIM OF THE STUDY

MATERIALS AND METHODS

A 2-year-old girl was admitted to pulmonology department due to ineffective treatment of lobar pneumonia in provincial hospital. The first symptoms appeared two weeks before first hospitalization under the form of high fever, weakness, apathy. Laboratory test results showed high parameters of infection (C-reactive protein 300 mg%, procalcitonin 26 mg%) with coagulation disorders. The treatment included ceftriaxone with vancomycin, which resulted in improvement of the clinical condition and reduction of inflammatory parameters, but in chest radiograph the evolution of lobar pneumonia towards abscess has been described. Ultrasound of the chest revealed the consolidation area with vascularization of approx. 40x43 mm in the right lung with many air areas. Computed tomography (CT) showed similar findings as radiographs with a thick-walled air cavity measuring 75x52x62 mm, with the presence of fluid content and mass effect in the upper and middle lobes of the right lung. The treatment was based on the wide-spectrum anti-inflammatory therapy (meropenem with clindamycin) with clinical improvement and normalization of laboratory parameters. A follow-up chest CT scan performed after 5 weeks of therapy showed a significant reduction of the previously described lesion to 35x36x27 mm. The child was discharged home in a good condition and was also consulted in Thoracic Surgery Clinic to set a date for the surgical procedure.

CONCLUSIONS

The congenital cystic lung disease can be diagnosed as incidental finding on radiograph and be the cause of severe pneumonia and complications.

Title: Frontal encephalocele in a neonate- Case report

Author(s): Aleksandra Barabasz

Tutor(s): Beata Borek- Dzięcioł, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Cerebral herniation- encephalocele is a rare congenital neural tube defect characterised by protrusion of brain tissue through cranial opening. There is occipital, frontoethmnoidal, cranial vault and basal type. Genetic and environmental factors contribute to development of encephalocele. Possible explanation is failure of separation of surface ectoderm from neuroectoderm during neural fold closure and abnormal gene signalling from neural tube. However, the exact aetiopathogenesis is still unknow.

AIM OF THE STUDY

MATERIALS AND METHODS

The aim of this study was to present the diagnostic and therapeutic management in a male infant prenatally diagnosed with encephalocele at 15 Hbd. MR examination at 28 Hbd revealed a protrusion of the frontal and parietal lobes through a frontal bone defect. The neonate of pregnancy V, delivery II, was born by caesarean section at 36 weeks' gestation with body mass 2600 g, 10 points in Apgar scale. Congenital infections, metabolic diseases were excluded. Genetic material was preserved- study in progress. USG, MR and CT scans showed extensive anterior meningocerebral hernia extending through the frontal bone defect, wide orbital bones, ventricular system dilatation and asymmetry and temporal lobe flexion at 90 degrees. A neurosurgical procedure was performed on day 16 of life. The dysplastic fragments were removed and the healthy part of the brain was drained from the hernia. USG and MR imaging on days 3rd and 10th post-surgery, showed some abnormalities of cerebral system and distortion of the ventricles. Initially, palliative care was suggested; however, the baby condition began to improve. Two weeks after the operation, the newborn was extubated, began to breathe independently, took food and responded to light and sound. The post-operative wounds were healing properly. No dysmorphic features, anomalies of other body parts or none of the genetic syndromes manifesting with encephalocele were observed. Currently, the newborn remains in good condition under multispecialist care, awaiting the next stages of nose plastic surgery.

CONCLUSIONS

Conclusions
The aetiopathogenesis of congenital malformations is difficult to define. A multidisciplinary approach and proceeding in accordance with the latest medical knowledge is crucial. In this case, the decision to operate to remove the cerebral hernia was made despite the risk and inauspicious prognosis, allowing the restoration of almost normal anatomy, a good cosmetic outcome and the avoidance of death.

Title: When one is taking more than the other. Case study of twin pregnancy with selective fetal growth restriction

Author(s): Katarzyna Bednarczuk, Julia Młyńska

Tutor(s): Ewa Butrymowicz-Brzeska, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

In a twin pregnancy, selective fetal growth restriction (sFGR) is defined as an estimated fetal weight (EFW) of the 10th percentile for at least one twin and a discrepancy of ≥ 25% EFW between twins. Ultrasound (USG) and cardiotocography (CTG) are used to diagnose and monitor the condition. Dichorionic diamniotic (DCDA) twin pregnancies are associated with a higher risk of perinatal morbidity and mortality compared to unaffected pregnancies

AIM OF THE STUDY

MATERIALS AND METHODS

A 24-year-old woman with a dichorionic diamniotic twin pregnancy, admitted to the clinical ward of the Gynecology and Obstetrics of the Provincial Specialist Hospital in Olsztyn on August 25, 2023, in the 29th week of gestation, to monitor the condition of the foetuses. During hospitalisation, intensive supervision was carried out, with daily CTG recordings and ultrasound performed every other day. The first twin was in a breech position, diagnosed with extreme sFGR, estimated height difference >70%, circulatory failure. Second twin is in a cephalic position. At 30 weeks gestation, it was decided to introduce steroids to stimulate the lungs of the smaller twin. Due to the risk of intrauterine fetal asphyxia of the first twin, after discussion with the patient, it was decided to qualify for an emergency caesarean section. The delivery was uncomplicated - the first twin had a birth weight of 470g, Apgar score 1; the second twin 1650g, 7 on the Apgar scale. The children were transferred to the Neonatology and Neonatal Intensive Care Unit . Early puerperium in hospital was uncomplicated, the patient was discharged in good condition with a recommendation for follow-up within 6 weeks.

CONCLUSIONS

Management of dichorionic twin pregnancies complicated by sFGR remains a challenge. The risk/benefit ratio for each foetus must be considered, especially if a decision is made to deliver sooner. In order to improve perinatal outcomes, such pregnancies should be subject to intensive ultrasound and cardiotocographic surveillance.

Title: Monochorionic monoamniotic twins: twists and turns of the pregnancy.

Author(s): Katarzyna Bednarczuk, Julia Młyńska

Tutor(s): Ewa Butrymowicz-Brzeska, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Monochorionic monoamniotic (MC/MA) twin pregnancies occur in 1 in 8,000 pregnancies and may be associated with the risk of monochorionic-related complications. One of the complications is fetal death, which most often occurs before the 24th week of pregnancy and is mainly related to umbilical cord conflict. An umbilical cord collision occurs when the umbilical cord of one twin wraps around the other or both cords wrap together. This is a characteristic complication of monoamniotic pregnancies and occurs in 42-80% of MC/MA pregnancies. In the presented case, a patient with an MC/MA pregnancy complicated by fetal conflict gave birth by cesarean section in the 32nd week of pregnancy

AIM OF THE STUDY

MATERIALS AND METHODS

24-year-old woman in the 25. weeks of gestation (WG) with monochorionic monoamniotic twins (MC/MA) was admitted to the Department of Gynecology and Obstetrics in Olsztyn to monitor the course of pregnancy. At 24 weeks an ultrasound examination (USG) showed an umbilical cord conflict. During hospitalization, the pregnancy was monitored by ultrasound every two days and by CTG. In order to stimulate fetal lung development, steroid therapy was used in the 31. WG. The delivery was by cesarean section in the 32. WG. The children were born in good condition, the first twin was Apgar 7/8/10, the second twin was Apgar 8/10/10. An umbilical cord conflict was alleged - both umbilical cords were twisted together many times, in the shape of a braid. Patient was in good condition, with no complications after surgery.

CONCLUSIONS

Regular ultrasound and CTG monitoring is recommended because it allows to improve the prediction of a high-risk pregnancy, such as a monochorionic monoamniotic twin pregnancy. Pregnancy monitoring makes it possible to optimally determine the date of cesarean section for the proper subsequent development of children, despite the risk of umbilical cord conflict. Therefore, patients in a similar clinical situation should be monitored regularly.

Title: Rare cooccurrence of congenital diaphragmatic hernia and giant omphalocele

Author(s): Konstancja Ustymowicz, Zuzanna Roszkowska, Maria

Tutor(s): Dariusz Madajczak

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The coexistence of congenital diaphragmatic hernia (CDH) and omphalocele (OM) is extremely rare, especially in cases without comorbid genetic anomalies. Large diaphragmatic defect and the presence of the liver in diaphragmatic hernia is associated with higher mortality.

AIM OF THE STUDY

MATERIALS AND METHODS

A male neonate was born from G2P1 at 34 weeks of pregnancy via a caesarian section, and received 7-8 points on the Apgar scale. He was prenatally diagnosed with left-sided CDH and giant omphalocele (GOM). A prenatal cytogenic test revealed a normal male karyotype. After birth, he was intubated and mechanically ventilated with high FiO2 due to pulmonary hypertension (PH). The patient was qualified for surgical correction of CDH and GOM. During the operation, a spherically shaped liver was found in GOM. CDH was described as Bochdalek hernia type D. Diaphragm hernia was repaired with a path. A SILO bag was sewn into the abdominal cavity, and the volume of the SILO bag was reduced every day. After seven days, the operation to restore the continuity of the abdominal wall was successfully carried out. Aortic arch hypoplasia with tubular aortic coarctation and PH was found in the first echocardiography exam. PGE1 infusion was administered till the second operation. After surgical repair, follow-up echocardiography excluded aortic arch hypoplasia, and PGE1 infusion was stopped. The ductus arteriosus was closed spontaneously after that.
Due to chronic respiratory failure, a tracheostomy was performed, after that the neonate was ventilated via a tracheostomy tube. On the follow-up examination, the right lung was well inflated with good blood circulation, but the left lung was still compressed and hypoplastic. Initially, he required total parenteral nutrition and then tube feeding. The patient's condition was improving and he was discharged home at 4 months of age, breathing via a tracheostomy tube and eating via a feeding tube.

CONCLUSIONS

Prenatal diagnosis of CDH and OM is necessary to ensure proper care for the newborn. The presence of the liver in OM may be associated with better outcomes in patients with left-sided CDH. However, a large defect in the diaphragm means that the muscles cannot perform sufficient breathing activity, leading to respiratory failure. Furthermore, neonates with comorbid CDH and OM develop complicated management problems due to PH and/or pulmonary hypoplasia.


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Title: MOLECULAR TARGETED THERAPY USING DACOMITINIB IN THE TREATMENT OF EGFR (L858R) LUNG CANCER

Author(s): Aleksandra Lewczak, Mateusz Malinowski

Tutor(s): Łukasz Minarowski, MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Lung adenocarcinoma with an EGFR mutation belongs to the subtype of non-small cell lung cancer. It is possible to select individual therapy for the patient thanks to molecular diagnostics. Classic methods of treating adenocarcinoma, including surgery, chemotherapy, and radiotherapy, are still the basis of treatment. Nevertheless, the 5-year survival rate of patients with stage CS IV is 1%

AIM OF THE STUDY

MATERIALS AND METHODS

An 81-year-old woman was hospitalised in the COVID ward on February 18, 2022. In the chest, a tumour was found in the right lung (34x15x24mm), and fluid in the right pleura and pericardium. In June 2022, a follow-up CT scan was performed. The tumour was found to have enlarged to 31x37x49mm. EBUS-TBNA was performed - and adenocarcinoma of the lung was diagnosed. The EGFR L858R mutation was confirmed in the NGS study. The patient qualified for the National Health Fund drug program using dacomitinib. Therapy was started, which turned out to be complicated by liver, eye, and skin toxicity. Periodic deterioration of the patient condition required periodic discontinuation of drug administration until the toxicity subsided. After control tests, it was decided to reduce the drug dose to the minimum tolerated dose. In July 2023, a follow-up CT scan was performed, which showed stabilisation of the disease (RECIST 1.1 SD) compared to the examination in May 2023.

CONCLUSIONS

In the presented case, the detection of an EGFR mutation enabled the use of individual dacomitinib therapy. The patient responded well to treatment, and disease stabilisation (SD) was achieved according to RECIST 1.1. Currently, OS and PFT cannot be determined. Compared to traditional treatment methods, the expected survival time from diagnosis in the most severe stages of the disease (CS IV) is approximately one year. When selecting a treatment method, the elderly and people in advanced stages of the disease should not be excluded from access to the latest drugs or therapies.

Title: Does every pulmonary embolism look the same? - Case Report

Author(s): Jakub Łomzik, Wiktoria Kozłowska, Laura Bursztynowicz, Adam Sadowski, Paulina Hnatuśko, Aleksandra Busłowska.

Tutor(s): Anna Lisowska, MD PhD DSc

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pulmonary embolism is a life-threatening condition, particularly challenging to diagnose in older individuals due to nonspecific symptoms and coexistence of other diseases with similar symptomatology. Moreover, hospital mortality rates are higher in the elderly compared to younger patients. The aim of this presentation is to draw attention to diagnostic and therapeutic challenges in older patients based on a case description.

AIM OF THE STUDY

MATERIALS AND METHODS

An 86-year-old patient in very severe condition with a history of arterial hypertension and left-sided paresis following an ischemic stroke was admitted due to massive pulmonary embolism. On admission, he complained of weakness and dyspnea persisting for 3 days. Symptoms were accompanied by tachypnea, normocardia, BP=146/91 mmHg, SpO2=88% without oxygen therapy, and lower limb edema. Laboratory tests showed signs of multiorgan failure, including metabolic acidosis, elevated levels of troponin I (1360 ng/l), D-dimers (20 µg/ml), and NT-proBNP (35000 pg/ml). Electrocardiography revealed right bundle branch block and left anterior hemiblock. Echocardiography demonstrated enlargement of the right heart chambers with a high probability of pulmonary hypertension. Pulmonary artery computed tomography angiography confirmed the presence of a massive central embolus. The Pulmonary Embolism Severity Index (PESI) indicated a high risk of death due to pulmonary embolism (Class V). Treatment included high-flow oxygen therapy, intravenous unfractionated heparin infusion, and empirical antibiotic therapy. Due to lack of improvement, a cardiac surgery consultation was requested; however, the patient was not qualified for embolectomy due to multiorgan failure. Therefore, thrombolytic therapy (Actilyse) was initiated. The patient condition did not improve, leading to a cardiac arrest in pulseless electrical activity mechanism. Advanced life support was initiated. Resuscitation efforts were unsuccessful, and the patient died.

CONCLUSIONS

In elderly individuals, pulmonary embolism manifests less frequently with chest pain compared to younger patients. However, tachycardia and syncope are more common in advanced years. D-dimer levels physiologically increase with age, which can contribute to lower test specificity in older individuals. Awareness of clinical differences and limitations in diagnostic and therapeutic management in elderly patients suspected of pulmonary embolism is important in daily clinical practice.

Title: Unveiling the Tacrolimus Dilemma: A Case Report of Post-Transplant Diabetes Mellitus

Author(s): Oskar Makuch, Joanna Najbar

Tutor(s): Lek. Natalia Hawryluk

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Post-transplant diabetes mellitus (PTDM) constitutes a significant complication in patients following kidney transplantation. It is estimated to affect up to 25% of these patients who did not exhibit carbohydrate metabolism disorders prior to the procedure. PTDM may develop gradually and insidiously within the first 6 months post-transplantation, rendering its diagnosis challenging.

AIM OF THE STUDY

MATERIALS AND METHODS

A 52-year-old female patient was admitted to the ward due to tubulointerstitial nephritis, resulting in acute parenchymal renal damage. During the interview, the patient disclosed hypertension, prior anemia, left mastectomy, and previous lipoma removal. Following a comprehensive clinical assessment and laboratory investigations, including elevated creatinine levels and reduced GFR, the initiation of hemodialysis was deemed necessary to support renal function. The patient underwent regular hemodialysis sessions for the subsequent 11 months, during which her clinical status and response to therapy were monitored. Upon meeting the qualifying criteria, she underwent left kidney transplantation. Following the kidney transplantation, the patient tolerated the immunosuppressive therapy without significant adverse effects. However, within the initial three months post-transplantation, she began experiencing exacerbating symptoms of hyperglycemia. These symptoms included increased thirst, polyuria, and general weakness. Additionally, recurrent mixed etiology (fungal-bacterial) urinary tract infections were observed. During the diagnostic and therapeutic stay, significantly elevated levels of tacrolimus were identified in the patient blood. The identification of elevated fasting blood glucose and glycated hemoglobin levels, along with the results of an oral Glucose Tolerance Test (GTT), confirmed the presence of PTDM. To optimize treatment, tacrolimus dosage was changed. If no improvement is observed, switching to cyclosporine may be considered.

CONCLUSIONS

The frequency of PTDM occurrence may be dependent on the dosage of tacrolimus and steroid medications. The diabetogenic mechanism of tacrolimus involves reversible inhibition of the transcriptional insulin gene, leading to reduced insulin production and secretion. This is corroborated by the fact that switching from tacrolimus to cyclosporine may improve glycemic control in patients experiencing tacrolimus toxicity.

Title: Tackling the Complexity: Is It Nodule, Endometriosis or What...?

Author(s): Oskar Makuch

Tutor(s): Lek. Łukasz Klepacki

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Endometriosis entails the occurrence of tissues resembling the uterine lining, including glands and stroma, in locations beyond the uterus, and it is estimated to impact approximately 6% to 10% of women of reproductive age. Among this population, 12% are estimated to experience endometriosis of nonreproductive organs and the most common site of endometriosis outside of the abdominopelvic cavity is within the thoracic cavity. Pulmonary endometriosis has multifactorial causes, but the disease pathogenesis remains unclear.

AIM OF THE STUDY

MATERIALS AND METHODS

37-year-old female patient was admitted to the Department of Chest Surgery for surgical treatment of pulmonary endometriosis. The patient has a history of melanoma of the skin, which was removed along with margin widening and lymphadenectomy 7 years ago. She has been experiencing recurrent episodes of hemoptysis for the past 2 years. The patient underwent removal of a polypoid-nodular lesion of the upper lobe of the right lung, and histopathological examination revealed suspicion of endometriosis, with the possibility of a malignant process not being definitively excluded. During the hospital stay, bronchofiberoscopy was performed, revealing a polypoid lesion of small size between segments 2 and 3 of the right lung (macroscopically similar to the previously removed nodular-polypoid lesion) covered with clots. Bloody secretion was observed in the bronchial tree. VATS upper right lobectomy with mediastinal lymphadenectomy was performed during the hospitalization. The obtained material was sent for consultation to the National Oncology Institute with suspicion of ALK-positive histiocytosis - a novel rare histiocytic proliferation.

CONCLUSIONS

This case emphasizes the importance of recognizing rare presentations of endometriosis and the difficulties associated with its diagnosis and treatment, requiring multidisciplinary approaches to ensure optimal patient care. Pulmonary endometriosis may not exhibit specific symptoms, mimicking other lung conditions, therefore histopathological examination remains the gold standard in diagnosis. Further research is needed to clarify the pathogenesis of pulmonary endometriosis and enhance diagnostic and therapeutic strategies for affected individuals.

Title: The Onset of Heart Failure due to Organ Damage in Hypereosinophilia

Author(s): Dominika Malinowska, Magdalena Baranowska

Tutor(s): Professor Edyta Zbroch

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Hypereosinophilic syndromes are a group of rare haematological conditions associated with an increase in the number of eosinophils in the blood, forming eosinophilic infiltrates in tissues, leading to organ damage. It can affect a variety of organs, which is associated with a wide spectrum of symptoms. The observed hypereosinophilia in laboratory tests and the unclear clinical picture prompt an in-depth diagnosis to exclude secondary and reactive eosinophilia associated with other conditions. The aim of this report is to discuss a rare cause leading to symptoms of heart failure due to organ damage in hypereosinophilia.

AIM OF THE STUDY

MATERIALS AND METHODS

A 26-year-old patient with a history of obesity and asthma was admitted to the Department of Internal Medicine and Hypertension with gastrointestinal symptoms. On physical examination, the abdominal pain along with acute diarrhoea and episodic nausea and vomiting for 2 weeks were observed. Laboratory tests indicated hypereosinophilia, leukocytosis, elevated D-dimer, lactic dehydrogenase, IgE, and CRP. Tachycardia was also noted. Imaging revealed fluid on the left side of the chest and reduced cardiac function (ejection fraction 35%). While heart MRI excluded typical hypereosinophilic inflammatory changes, further investigations in the Hematology Department suggested idiopathic hypereosinophilic syndrome and a reduction in eosinophils following treatment was achieved. The patient remains under the control of specialist clinics.

CONCLUSIONS

Hypereosinophilic syndrome is characterized by a wide range of clinical symptoms and its first clinical manifestation may be heart failure. Awareness of hematological causes is crucial, necessitating a comprehensive diagnosis, including bone marrow examination. Determining the subtype is essential for therapeutic and prognostic implications. Our patient nonspecific gastrointestinal symptoms unveiled a rare cause of organ damage and the onset of heart failure.

Title: Kidney transplant in a patient undergoing dialysis with multiple dialysis catheters and massive vascular calcifications

Author(s): Mateusz Malinowski

Tutor(s): Prof. Tomasz Hryszko MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

KTX is a procedure involving the transplantation of a healthy kidney from a donor to a sick recipient whose kidneys no longer perform their functions due to irreversible failure. Kidney transplantation is the most effective method of renal replacement therapy.

AIM OF THE STUDY

MATERIALS AND METHODS

A 47-year-old man with a history of end-stage renal disease (G5D), long-term arterial hypertension, on hemodialysis for 6 years, with four episodes of catheter-related sepsis caused by S.aureus MSSA (2018, 2021, 2023, 2024) was admitted to the Department of Surgery Vascular and Transplantation for kidney transplantation. The surgery took place without complications. Postoperatively, lack of function of the transplanted kidney and swelling of the left lower limb were observed. The CT scan of the abdomen and pelvis showed irregular, massive calcifications along the entire length of the lumen of the inferior vena cava, common and external iliac veins. On the 8th day after the procedure, a gradual recovery of function by the transplanted kidney was observed as a result of improved efficiency of collateral circulation, despite massive calcifications in the venous vessels.

CONCLUSIONS

In the presented case, the creation of excretory collateral circulation allowed the transplanted kidney to resume its function and there was no need for reoperation. A dialysis catheter is not optimal for vascular access because patients have an increased risk of developing bacterial infections and narrowing and occlusion of venous vessels, which may prevent a kidney transplant in the future.

Title: “Away from the lungs”: A case report of extrapulmonary tuberculosis

Author(s): Piekarska,Niewrzał,Czupryna,Adamczuk,Moniuszko-Mal

Tutor(s): prof. Moniuszko-Malinowska, dr hab. n. med. Piotr Czupryna

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Tuberculosis is an airborne infectious disease caused by mycobacteria of the Mycobacterium tuberculosis complex group .There are three types of mycobacteria - M. tuberculosis, M. bovis and M. africanum. Most often it occupies the lungs, but it can attack any other organ, in which case we speak of extrapulmonary tuberculosis.Our patient had predisposing factors for developing extrapulmonary tuberculosis. In the complex cases like presented in our case diagnostics plays crucial role.

AIM OF THE STUDY

To report a case of a extrapulmonary tuberculosis without any original source of infection in the lungs in a immunocompetent women.

MATERIALS AND METHODS

Retrospective observational case report.

CONCLUSIONS

Extrapulmonary tuberculosis still occurs among society. It can be difficult to diagnose if there isn’t any source of an infection in the lungs.

Title: Acute Conditions in Oncology - Management of Life-threatening Anemia. A case report.

Author(s): Zuzanna Ostrowicz

Tutor(s): Anna Woś-Zaniewska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Life-threatening anemia, defined as a hemoglobin concentration below 6.5 g/dl, is a rare but serious condition. Severe anemia poses significant health risks, particularly when it arises as a complication of upper gastrointestinal bleeding. In this context, life-threatening anemia emerges as a critical concern, necessitating prompt recognition and intervention to prevent adverse outcomes

AIM OF THE STUDY

MATERIALS AND METHODS

A 33-year-old male undergoing chemotherapy for gastric cancer was first admitted urgently in September of last year due to signs of recent upper gastrointestinal bleeding and severe hemorrhagic anemia (Hb 3.6 g/dl). Upon admission, physical examination revealed pallor of the skin and conjunctivae, and on rectal examination, there was evidence of melena. Hematologic deficiencies were corrected by transfusing a total of eight units of packed red blood cells. In subsequent hospitalizations (November, December), the patient continued to exhibit symptoms of active bleeding, such as vomiting blood and progressive anemia (Hb 8.6 g/dl and 5.0 g/dl, respectively). Due to the lack of feasibility for endoscopic or surgical treatment - attributed to the patient poor general condition and pathological abdominal metastases - the patient was enrolled in a trial of interventional radiology methods, including embolization of the gastric fundus

CONCLUSIONS

This abstract presents a case study highlighting the grave implications of life-threatening anemia secondary to upper gastrointestinal bleeding, underscoring the importance of timely diagnosis and management in such critical scenarios.

Title: Iatrogenic injury of the inferior vena cava during hemodialysis catheter implantation;

Author(s): Adam Filip Płoński

Tutor(s): Adam Płoński MD PhD, Jerzy Głowiński MD PhD, Tomasz Hryszko MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Due to the escalating prevalence of patients suffering from end-stage renal disease, providing them with effective and secure vascular access for hemodialysis seems to be a key issue. Dialysis catheters offer a means to execute renal replacement therapy, however their application is associated with the occurrence of significant complications.

AIM OF THE STUDY

Presentation of an extremely uncommon instance of iatrogenic inferior vena cava injury during dialysis catheter implantation. A case of a 29-year-old woman with a history of ESRD, who was transferred to our hospital in a serious general condition subsequent to an unsuccessful attempt of femoral vein dialysis catheter insertion at another medical facility.

MATERIALS AND METHODS

Computed tomography showed a substantial retroperitoneal hemorrhage stemming from the perforation of the inferior vena cava caused by the dialysis catheter. Repair possibilities for rectifying this life-threatening event included an extensive invasive intervention that required a fusion of conventional surgical approach and modern endovascular techniques to achieve beneficial results and save the patient life.

CONCLUSIONS

A dialysis catheter should be utilized only when vascular access options, such as arteriovenous fistulas and grafts, are unavailable or not suitable due to the patient's medical condition or vessel quality. During catheter insertion, improper technique or anatomical variations can lead to inadvertent vascular perforation.

Title: Improper imatinib intake leading to blast crisis in CML

Author(s): Maciej Ponczek

Tutor(s): dr n. med. i n. o zdr. Zuzanna Jakubowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Since the advent of imatinib over 90% of chronic myelogenous leukemia (CML) patients do not experience progression to the accelerated phase or blast crisis in 10 years of treatment. Despite this optimistic high rate, avoidable errors occur that lead to disease progression in those who initially responded well to treatment.

AIM OF THE STUDY

MATERIALS AND METHODS

A 59-year-old woman with history of chronic kidney disease (stage G2) was admitted to the Department of Nephrology in serious condition with malaise, psychomotor retardation, fever, pain in lower extremities, constipation and dyspnea. She had been successfully treated for CML with imatinib for 3 years, after which time her disease had progressed to blast crisis with 40% blasts. CT revealed a 46x63 mm mass infiltrating the 7th rib with osteolysis on the left side of the chest and multiple metastasis-like osteolytic bone lesions in the vertebrae and pelvis.Severe hypercalcemia was suspected and confirmed in laboratory tests (Ca2+ 2.03 mmol/l [reference range 1.0-1.3 mmol/l]) alongside elevated inflammation markers. Intravenous fluids, furosemide, ceftriaxone, hydroxycarbamide and zoledronic acid were administered. Transfusions were performed as needed. In the following days the patient developed septic shock despite fluid resuscitation and administering vasopressors. This prompted the decision to transfer her to the Intensive Care Unit where she spent 7 days. The source of infection remained unidentified. Her empirical antimicrobial treatment was changed to piperacillin-tazobactam and fluconazole, which resulted in a marked improvement to her cognitive functions.On thorough renewed inquiry it was discovered that for about 7 months prior to hospitalization the patient had been experiencing morning bouts of vomiting occurring shortly after ingesting imatinib tablets. It was likely a side effect of her therapy. Thus, a probable cause for the progression of CML was established.Over the subsequent days, her condition deteriorated. Possible re-treatment in the ICU was deemed futile care. On the 21st day since admission she went into another shock and died. The decision was made not to perform CPR.

CONCLUSIONS

Common and seemingly trivial side effects of medications, such as nausea, are often unreported, despite their potential to affect much more than just comfort. Proper patient education and thorough history-taking are key to ensuring that such occurrences do not go overlooked when sufficient drug intake is crucial.

Title: Unusual clinical manifestation of idiopathic anaphylaxis in a 15 years old male - A Case Report

Author(s): Anna Popowicz

Tutor(s): Iwona Iwaniszyn-Popowicz MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Anaphylaxis is a serious, potentially life-threatening medical condition caused by allergic reaction. Areas of the body most frequently affected include: skin, respiratory system, gastrointestinal system and circulatory system. It is commonly triggered by food, stinging insects or medications. If no known cause of anaphylaxis can be identified then it is classified as idiopathic. Typically anaphylaxis has a fast onset within minutes after exposure, however in some cases a fully developed anaphylaxis can become evident after several hours. In this work I want to describe an unusual way in which anaphylaxis presented in a 15 years old male.

AIM OF THE STUDY

MATERIALS AND METHODS

A 15 years old patient was admitted due to generalized urticaria with oedema localized on palms, feet and lower lip. He was in moderate condition, showing signs of apathy and tiredness. According to the patient urticaria had started in the neck area about 8 hours prior and proceeded to gradually spread to the whole body. Patient had a history of recurring urticarias since the age of 5. During hospitalization treatment consisted of antihistamines and steroids. Over a 2 hour period despite this treatment there was no improvement. Moreover patient started complaining of malaise and increasing abdominal pain, which was followed by 2 episodes of vomiting and syncope. Due to initial misdiagnosis epinephrine was not administered, patient was further treated with antihistamines, steroids, antiemetics and intensive parenteral fluid therapy. Lab results which were obtained later showed elevated hemoglobin and hematocrit, neutrophilic leukocytosis with no signs of infection, hypoproteinemia and elevation in both serum tryptase and total serum IgE. Testing for serum IgE of specific food and airborne allergens did not identify a possible allergen. Patient admitted to having known cofactors of anaphylaxis: drinking alcohol, physical exertion and lack of sleep a day prior to admission. Due to the overall clinical presentation and laboratory findings a retrospective diagnosis of idiopathic anaphylactic shock was made.

CONCLUSIONS

This case is unique due to atypical progress of symptoms - initially affecting only skin and leading to anaphylactic shock in the span of several hours. It shows the diagnosis of widely described states such as anaphylaxis is not always straightforward. Due to possible fatal outcome knowledge of both unusual presentations and detailed diagnostic process of anaphylaxis is necessary

Title: The Vital Role of Neurosyphilis in Differential Diagnosis: Understanding its Impact on Cardiovascular Complications

Author(s): Magdalena Skorupska, Filip Bossowski

Tutor(s): prof. dr hab. n. med. Anna Moniuszko - Malinowska, lek. med. Maciej Giecko

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Navigating the diagnostic complexities of neurosyphilis amid coexisting cardiovascular concerns in patients with established hypertension and diabetes presents a multidimensional clinical challenge. This case articulates the nuanced diagnostic and therapeutic modalities employed to address the neurological and cardiovascular manifestations of syphilis in a medically complex patient

AIM OF THE STUDY

MATERIALS AND METHODS

A 46-year-old patient with a history of systemic hypertension and diabetes mellitus presented with progressive bilateral limb weakness and ambulatory disturbances over a six-month period. Detailed neurological examination at the Choroszcz Neurology Department revealed pronounced muscular atrophy in the upper limbs, disproportionately affecting the left side, and critical reduction in muscular strength, notably the inability to manipulate simple objects such as a pen. Serological assays initially ruled out Lyme disease; however, subsequent testing identified a positive microflocculation reaction for pallid spirochetes and elevated serological markers for Treponema pallidum. Cerebrospinal fluid analysis demonstrated elevated protein levels and IgG indices, consolidating the diagnosis of neurosyphilis. VDRL and TPHA tests further corroborated this diagnosis. Cardiological evaluation was prompted by anomalous echocardiographic findings, indicating a potential underlying cardiac dysfunction, which warranted further exploration at a specialist cardiology unit. The therapeutic regimen comprised guideline-concordant antibiotic therapy, which elicited a modest clinical improvement. The patient was discharged with comprehensive rehabilitation protocols.

CONCLUSIONS

This case highlights the importance of an integrated, multidisciplinary approach in diagnosing and managing neurosyphilis, particularly when linked with cardiovascular issues in patients with chronic conditions like diabetes and hypertension. It illustrates the essential role of combining expertise from neurology, dermatology, ophthalmology, and cardiology to effectively diagnose and treat syphilis-related complications. This collaborative strategy not only refined the diagnosis but also enhanced patient outcomes, emphasizing the need for coordinated care in complex multisystem disorders.

Title: Heart Failure Caused by Abuse of Selective Androgen Receptor Modulator (SARM) – Devastating Consequences of RAD-140 (Testolone)

Author(s): Tymon Lewalski

Tutor(s): Doktor nauk medycznych Hanna Nosek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Mucolipidosis type 4 is an extremely rare genetic disease that is severely under-diagnosed and is characterized by significantly delayed psychomotor development, visual disturbances and lack of hydrochloric acid in the stomach. In the Ashkenazi Jewish population there are two severe mutations with a higher carrier frequency of 1:90
to 1:100, but estimates suggest that MLIV occurs in fewer than 1 in 100,000 individuals in the general population.

AIM OF THE STUDY

MATERIALS AND METHODS

A patient is 17-years old boy. His postnatal development was normal, except for unequal pupils which were noticed 2 weeks after birth. The patient was referred to an ophthalmological and neurological clinic, where no significant disorders were found. Around 6 months of age decreased muscle tone was noticed. He was referred to a rehabilitation clinic where his development was normal, but from the first year of life the boy could not walk independently, and his muscle tone began to change from decreased to increased, which led to a wrong diagnosis of infantile cerebral palsy at the age of 2. The patient additional symptoms include iron deficiency anemia, corneal opacity, and nystagmus. Karyotype tests were performed, which did not reveal any genetic disease. In 2023, a WES test was performed, based on which the accurate diagnosis of mucolipidosis type 4 was made.

CONCLUSIONS

Mucolipidosis type 4 is an example of autosomal recessive pattern of inheritance, which means that both parents carry the mutated gene and got 25% chance of having a child with this particular disease. It is crucial to offer them genetic counseling. This case illustrates that this disease is often misdiagnosed as cerebral palsy. It also shows the importance of broad differential diagnosis and awareness of genetic diseases.

Title: An example of Denys–Drash syndrome - case report

Author(s): Joanna Słuchocka

Tutor(s): dr n. med. Hanna Nosek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Denys–Drash syndrome (DDS) is a rare genetic condition with only around 300 cases reported in the literature. It is characterized by a triad of symptoms: nephropathy usually presenting as nephrotic syndrome, Wilms tumor and genitourinary structural defects. It is hard to tell whether the prevalence of the syndrome is gender associated because malformations of genitals often make it hard to distinguish gender of a child. In many cases, children with a female phenotype present with a male karyotype 46 XY. The cause of DDS is most commonly an abnormality in the WT1 gene that is responsible both for renal and gonadal development.

AIM OF THE STUDY

MATERIALS AND METHODS

A 1-year and 8 months old girl was admitted to the hospital with proteinuria for half a year. She underwent a right-sided nephrectomy 5 months earlier due to a Willms tumor which was followed by chemotherapy. Bloodwork was done and showed a nephrotic syndrome with hypoalbuminemia and hyperlipidemia, other tests showed a female karyotype 46 XX. They were followed by a genetic tests that revealed a new variant of WT1 mutation which was decided to be pathogenetic. Frasier syndrome, Meacham syndrome and Denys-Drash syndrome were taken into consideration in differential diagnosis and the patient's symptoms matched DDS best.

CONCLUSIONS

Even though Denys-Drash syndrome's pattern of inheritance is autosomal dominant, most of the patients have de novo mutations. The condition is resistant to corticosteroids and immunosuppressive drugs. Prognosis of the patients is variable, some children die at a very young age and some live into adulthood. There are a couple of things that may help the patients' prognosis, for example undergoing bilateral nephrectomy or even gonadectomy in certain cases. All in all, this case illustrates that DDS is a disease that we should be aware of to be able to catch it quickly in young patients.

Title: Liver transplantation for primary sclerosing cholangitis (PSC) – case report

Author(s): Miglė Viliušytė

Tutor(s): Irena Valantienė, MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Primary sclerosing cholangitis (PSC) is a rare disorder with progressive destruction of the bile ducts due to recurring inflammation and fibrosis. The clinical course of the disease is variable but may lead to cirrhosis and chronic liver failure. Approximately 40% of PSC patients require a liver transplant over their lifetime. However, the disease can recur after transplantation.

AIM OF THE STUDY

MATERIALS AND METHODS

A 25-year-old man is being monitored by gastroenterologists after a second liver transplantation for PSC. The patient also has IBD – ulcerative colitis (UC). According to medical history, the patient was diagnosed with PSC in childhood. The disease eventually progressed to cirrhosis, complicated by ascites, and esophageal varices. Child-Pugh score was 12. The patient's condition deteriorated to liver failure (MELD score 20), and he underwent a liver transplantation by the age of 19 years old. Unfortunately, two years later, the disease recurred. The patient had multiple episodes of ascending cholangitis. MRCP was performed which showed narrowing of the ductus hepaticus communis. To improve bile outflow, a cutting balloon treatment was used to dilate duct stricture, however minimal effect was obtained. Therefore it was decided to use an endoscopic biliary stenting technique. A stent with a valve was used to prevent ascending inflammations. Transjugular liver biopsy was performed to evaluate PSC recurrence in the transplanted liver. Histological analysis showed PSC signs – bile duct loss, and portal fibrosis with inflammatory infiltrate. With further recurrence of ascending cholangitis and continued need for hospitalization, the patient was placed on the liver transplant waiting list for a second time. The liver was retransplantated within 4 years from the first transplantation. The patient is currently stable on tacrolimus immunosuppressive monotherapy. Long-term treatment with ursodeoxycholic acid is also prescribed. The UC is in endoscopic and clinical remission, maintained with mesalazine.

CONCLUSIONS

PSC recurs in 8,6% to 27% of patients after liver transplantation within an average of 4,7 years. The disease usually presents in a severe form and requires retransplant. Unfortunately, it is well known that survival decreases with each liver retransplant.

Title: When an aneurysm of the common iliac artery meets the ureter.

Author(s): Julia Więcko, Marta Skarzyńska,Weronika Piotrowska

Tutor(s): prof. dr hab. n. med. Edyta Zbroch

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Tutor(s) Affiliation(s):

INTRODUCTION

Acute renal failure is a sudden deterioration of the renal excretory function with subsequent retention of metabolic products, categorized as pre-renal, renal and post-renal. Post-renal issues stem from urinary tract obstruction, often due to external pressure or masses. Common causes vary by gender, with men typically affected by benign prostatic hyperplasia and women by reproductive organs or bladder cancer. However, in our case, we will present how an aneurysm of the common iliac artery was responsible for post-renal renal failure due to ureteral obstruction.

AIM OF THE STUDY

MATERIALS AND METHODS

A 78-year-old patient was admitted to the hospital due to a severe headache with dizziness, nausea and visual disturbances. In physical examination, BP was 200/100 mmHg and bradycardia (HR 38/min) with a positive response to atropine. Past medical history included hypertension and previous abdominal aortic aneurysm repair. Laboratory tests showed increased parameters of nitrogen metabolism, thrombocytopenia, hyponatremia, increased TSH and decreased fT3 and fT4. Abdominal ultrasound revealed dilation of the right renal pelvis and significant hydronephrotic dilation of calyces and pelvis of the left kidney. Contrast-enhanced CT of the abdomen visualized bilateral hydronephrosis, dilated calyces and pelvis, bilateral ureteral dilatation with compression at the crossing of the iliac vessels, bilateral external iliac artery aneurysms with ureteral compression at their level.The patient was consulted with a vascular surgeon and the date of the left common iliac artery aneurysm repair surgery was set. The procedure was performed as planned, without any complications.

CONCLUSIONS

Not only benign prostatic hyperplasia, urolithiasis, or bladder cancer can lead to acute renal failure, but also common iliac artery aneurysm. This condition can be severe as its size can exert pressure on the ureter, resulting in urine retention and damage to the urinary system, ultimately leading to the development of acute renal failure.

Title: What you can find in the kidney of a cancer patient. Case report of secondary amyloidosis.

Author(s): Mateusz Zimowski, Kuba Dziemiańczuk, Ewa Dryl-Jarmoc, Gabriela Kuliś

Tutor(s): prof. dr hab. Tomasz Hryszko

Affiliation(s):

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INTRODUCTION

Amyloidosis refers to the extracellular deposition of fibrils composed of low molecular weight subunits of various proteins within tissues. Secondary amyloidosis, also known as AA amyloidosis, is a rare, intricate complication associated with chronic inflammatory diseases and seldom linked with malignant neoplasms. The objective of this study is to present a rare paraneoplastic syndrome that led to kidney failure.

AIM OF THE STUDY

MATERIALS AND METHODS

A 60-year-old male patient was admitted to the hospital presenting with weakness, pallor, and massive swelling of the lower legs and thighs. His medical history included heart failure with reduced ejection fraction, hypertension, a history of left lower limb surgery, and chronic smoking. Computed tomography revealed a large tumor mass in the topography of the cecum and initial ascending colon. Laparoscopic excision of the right half of the colon with a stoma creation was deemed necessary. During the postoperative period, the patient developed worsening renal function parameters and increased peripheral edema. Histopathological analysis of a biopsy confirmed the presence of undifferentiated carcinoma. Due to suspected renal involvement, a renal biopsy was performed, revealing renal amyloidosis with glomerular and extraglomerular vascular deposits of type AA. Due to worsening kidney patient started hemodialysias. Further diagnostic investigations did not identify any other discernible causes of secondary amyloidosis.

CONCLUSIONS

Secondary amyloidosis caused by cancer of unknown primary is a rare clinical scenario. Left untreated, AA amyloidosis carries significant morbidity and mortality, primarily attributable to end-stage renal disease. Hence, prompt and accurate diagnosis is crucial for initiating timely treatment and extending the patient's lifespan. It is imperative to remain vigilant when encountering amyloidosis and to thoroughly investigate and exclude other potential etiologies of the disease.

Title: Health Awareness Disccrepancies in Białystok: Insights from a population study conduced on World Hypertension Day 2023

Author(s):

Tutor(s):

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The study emerged as an integral component of the pro-health campaign during World Hypertension Day 2023, conducted in Bialystok.

AIM OF THE STUDY

The aim of the study was to evaluate the Blood Pressure (BP), heart rate (HR), glycemia, and electrocardiography (ECG) among residents of Bialystok and surrounding region. It also allowed to mark the most undiagnosed group.

MATERIALS AND METHODS

192 random participants (53,3% female), were included, each of them completed a survey consisting of weight, height, age, social status, smoking, physical activity, and diseases. After that medical team measure they're BP, HR, and ECG testing.
	Data was analysed dividing by sex, age ≥65 year and below, BP ≥140/90 mmHg or less, body mass index (BMI) and comorbidites.

CONCLUSIONS

Based on the findings, it is imperative to increase the frequency of hypertension screenings among male residents. Additionally, individuals with diabetes should undergo regular blood pressure and weight assessments. Conversely, individuals with hypertension should undergo more frequent electrocardiogram screenings due to their heightened susceptibility to cardiac arrhythmias. Furthermore, a significant portion of participants had previously diagnosed hypertension that was inadequately managed.

Title: Preliminary Results of the BIA-AR Registry Regarding the Effectiveness of Lipid-Lowering Therapy Among Patients Undergoing Ablation for Atrial Fibrillation and Atrial Flutter

Author(s): K.Bagiński,M.Kowalczuk,M.Duzinkiewicz

Tutor(s): lek. Paweł Muszyński, dr hab. Marcin Kożuch

Affiliation(s):

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INTRODUCTION

Atrial fibrillation and atrial flutter pose significant challenges in cardiology, especially as they are the most common atrial arrhythmias in the elderly population. Ablation stands as the preferred non-pharmacological solution, aiming to prevent episodes and reduce the risk of cardiovascular death. However, literature does not exclude the risk of stroke, the most serious consequence of arrhythmias. Conversely, anticoagulant and lipid-lowering medications, according to studies, not only prevent strokes but also arrhythmic episodes. Therefore, reducing cardiovascular risk is considered a significant peri-procedural element to optimize outcomes of ablative procedures in patients.

AIM OF THE STUDY

To analyze the outcomes and assess the effectiveness of lipid-lowering treatment in patients after undergoing ablation due to atrial fibrillation and/or flutter.

MATERIALS AND METHODS

Ninety-eight patients (out of the targeted 250) who underwent ablation due to atrial fibrillation and/or flutter were included in the study. Preliminary analysis encompassed basic laboratory results, comorbidities, and administered treatment.

CONCLUSIONS

The percentage of intensive lipid-lowering treatment was very low. For the majority of patients, the administered treatment was insufficient.

Title: Early results from the Registry of Ablation for Atrial Fibrillation and Atrial Flutter - BIA-AR.

Author(s): I.Nowicka, T.Januszko, M.Kazberuk, J.Kruszyńska

Tutor(s): lek. Paweł Muszyński, dr hab. Marcin Kożuch

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INTRODUCTION

Transcatheter ablation is amongst the most common electrophysiological procedures performed nowadays. Those procedures are the mainstay methods of rhythm control, especially in drug-resistant arrhythmias, and their success rate is estimated at roughly 50-80%. The initial results of the Registry point to the conclusion that the best candidates for ablation are young patients without co-morbidities. Some data shows that, in contrast to pharmacological cardioversion, electrophysiological ablations demonstrate a larger improvement in the quality of life of the patients, lower mortality rates, and a decrease in the number of hospitalizations due to cardiovascular events.

AIM OF THE STUDY

The purpose of the registry is identification of risk factors, factors that influence the success of the procedure, as well as complications and recurrence of atrial arrhythmias.

MATERIALS AND METHODS

An initial analysis of basic laboratory results (i.a., CBC, NP-pro BNP, CRP, lipid profile, HbA1c), co-morbid diseases and applied pharmacological treatment of 98 patients (from the target of 250) who underwent ablation due to atrial fibrillation (AF) and/or atrial flutter (AFl). A telephone follow-up was conducted in 55 patients (with an observation median of 1124 days)

CONCLUSIONS

Initial results show a statistically low complication rate, with a low mortality rate due to any cause. The rate of recurrence of arrhythmia was high, but the vast majority of the procedures were first-time ablations.

Title: Individualized therapy for a patient with acute myocardial infarction and elevated lipoprotein (a)

Author(s): Piotr Arski, Jakub Michał Zimodro

Tutor(s): dr hab. n. med. Aleksandra Gąsecka

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Background: Lipoprotein (a) [Lp(a)] is a potent risk factor for atherosclerotic cardiovascular disease (ASCVD). Lp(a) measurement is recommended at least once in the lifetime. Given the lack of approved Lp(a)-lowering therapies, comprehensive ASCVD prevention and management are crucial in patients with elevated Lp(a) levels.

AIM OF THE STUDY

MATERIALS AND METHODS

A 58-year-old man without past medical history presented with anginal chest pain. On admission, negative T waves in the inferior electrocardiographic leads and an increased high-sensitivity cardiac troponin T level indicated non-ST-elevation myocardial infarction. Coronary angiography revealed three vessel disease with an acute occlusion in the right coronary artery, treated with primary percutaneous coronary intervention and drug-eluting stent implantation. Further tests showed aortic valve sclerosis, and atherosclerotic carotid artery disease bilaterally. In the initial lipid profile, low-density lipoprotein cholesterol (LDL-C) and Lp(a) levels of 132 mg/dl and 90 mg/dl, respectively, were identified, without other ASCVD risk factors. During hospitalization, lipid-lowering therapy (LLT) with high-intensity atorvastatin (40 mg daily) was initiated to achieve the guideline-recommended LDL-C level of 55 mg/dl. On remeasurement, LDL-C level decreased to 60 mg/dl, but the Lp(a) level increased to 140 mg/dl. Thereby, high-intensity statin monotherapy was replaced with a triple LLT with moderate-intensity rosuvastatin (10 mg daily), ezetimibe (10 mg daily) and inclisiran, a proprotein convertase subtilisin/kexin type 9 modulator. LDL-C and Lp(a) levels decreased to 24 mg/dl and 90 mg/dl, respectively. During 18 months of treatment, no ASCVD progression was observed. Eventually, the patient was referred to a specialized lipid center and was included in the clinical trial with an Lp(a) lowering agent.

CONCLUSIONS

Conclusion: Lp(a) measurement is crucial for ASCVD risk estimation. Intensive, patient-tailored LLT, along with optimal control of other risk factors based on global ASCVD risk, is essential for the management of increased Lp(a) levels.

Title: The impact of severe anaemia and chronic kidney disease on the outcome of acute myocardial infarction: a case study

Author(s): Salem Hamdan,Julia Foremniak,Maja Rosiak

Tutor(s): Milena Małecka-Giełdowska, Master

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Tutor(s) Affiliation(s):

INTRODUCTION

Arteriosclerosis and high blood pressure are known causes of acute myocardial infarction, which occurs when a thrombus blocks a coronary artery, preventing oxygen flow and causing necrosis. The thrombus is then dissolves, resulting in high concentration of Dimer D in blood plasma. The necrotic tissue releases potassium, lactate, troponin, and creatine kinase. The complications may include electrolytic imbalance, acidosis, and kidney failure.

AIM OF THE STUDY

MATERIALS AND METHODS

CONCLUSIONS

After acute myocardial infarction the patient experienced severe hypoxemia, lactic acidosis, and hyperkalemia. Stage G4 chronic kidney disease and atherosclerosis were a risk factors, and severe microcytic anaemia impacted the prognosis negatively. Acute myocardial infarction led to heart failure and cardiopulmonary arrest, which put the patient life in immediate danger.

Title: Transcatheter aortic valve implantation using the ACURATE Neo 2 prosthesis in a patient with severe aortic stenosis and massive calcification

Author(s): Krzysztof Krukowski, Adam Peciak

Tutor(s): dr hab. n. med. Piotr Chodór

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Tutor(s) Affiliation(s):

INTRODUCTION

Aortic valve calcifications are a prerequisite for implanting aortic valves using the TAVI method, ensuring their attachment to the native valve. However, massive calcifications, especially in the aortic valve annulus and outflow tract, may pose a risk of significant paravalvular leaks. In our case, transcatheter aortic valve implantation (TAVI) was performed using the ACURATE Neo 2 biological valve. This valve was selected due to its design, which poses the lowest probability of significant paravalvular leak.

AIM OF THE STUDY

MATERIALS AND METHODS

An 82-year-old patient was admitted to the hospital due to severe aortic valve stenosis with numerous additional diseases. Three months earlier, the patient underwent percutaneous coronary intervention with drug-eluting stent implantation. Echocardiography revealed severe aortic stenosis with massive calcifications and preserved left ventricle systolic function with an EF of 53%. The valve surface area was 0.4 cm^2 and the average gradient through the aortic valve was 54 mmHg. Due to her advanced age, high risk of the procedure related to coexisting diseases, and the presence of calcifications in the ascending aorta, the patient was disqualified from surgical treatment. Initially, due to massive calcifications, the patient was also disqualified from transcatheter aortic valve replacement, and only aortic valvuloplasty was proposed. However, after further analysis of the morphology of calcifications, it was concluded that it is possible to perform a TAVI procedure with the implantation of the ACURATE Neo 2 valve. Taking into account the structure of the valve, we concluded that the probability of significant paravalvular leak when using this valve is low. On January 26, 2024, an ACURATE Neo 2 biological valve with a diameter of 23 mm was implanted in the aortic position with access via the femoral artery. The procedure went without any complications. An echocardiography performed 3 days after the procedure showed an increase in LVEF to 60%, AV, mean gradient = 11 mmHg, AVA area = 1.6 cm^2, and a trace of paravalvular leak. A CT scan performed the next day revealed the correct shape and position of the valve. Further hospitalization was also uneventful, and the patient was discharged home 5 days after the procedure in good general condition.

CONCLUSIONS

Transcatheter aortic valve implantation using the ACURATE Neo 2 valve may be an effective and safe method of treating patients with severe aortic stenosis and massive calcifications in the annulus and outflow tract of the left ventricle. Our findings suggest that by carefully selecting a

valve for the patient and having a team with extensive experience, this type of procedure can be performed with great success.

Title: A spiral of disease catastrophe caused by alcohol.

Author(s): Gabriela Kuliś, Ewa Dryl-Jarmoc

Tutor(s): prof. dr hab. Tomasz Hryszko

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Common diseases in the population are often interconnected, causing a domino effect, resulting in serious functional limitations. The following case proves that alcohol consumption often leads to numerous organ dysfunctions and consequently to multimorbidity, which may also affect young patients.

AIM OF THE STUDY

MATERIALS AND METHODS

Excessive alcohol consumption by a 35-year-old man in the early stages of the disease led to recurrent episodes of acute pancreatitis. Pathological fibroinflammatory changes, impairing the secretory function of the organ, soon led to the diagnosis of diabetes. Diabetic foot, which is a complication of poorly controlled glycemia, led to lower limb amputation. Hyperglycemia and hypercholesterolemia significantly increased the risk of cardiovascular complications, ultimately causing NSTEMI. At the same time, the patient was diagnosed with pulmonary tuberculosis and gastritis. At the age of 38, he experienced a serious episode of bleeding from esophageal varices, complicated by hemorrhagic shock. Numerous, recurrent purulent infections, including phlegmon of the right foot and pleural empyema, are also a serious problem. Currently, a 41-year-old patient has been on hemodialysis for 2 years due to end-stage renal failure caused by diabetic nephropathy. Additionally, he was hospitalized many times due to multiple infectious complications, numerous infections and replacements of permanent hemodialysis catheters, complicated by catheter-related sepsis. Over the past year, the patient was diagnosed with chronic pancreatitis and osteomyelitis of the wrist bones. During the last hospitalization, a filter was placed in the inferior vena cava due to thrombosis of the lower limb

CONCLUSIONS

Often one disease, as in the case presented above, negatively affecting the entire body, leads to other diseases. The problem of multimorbidity and therapeutic complexity is a key challenge facing healthcare systems around the world.

Title: Hemothorax masked by exacerbation of congestive heart failure

Author(s): Piotr Panek

Tutor(s): lek. med. Piotr Bogacki

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Fluid accumulation in the pleural cavity is a frequent indicator of congestive heart failure, usually gathering bilaterally at the lung bases. While blunt chest traumas can pose an immediate threat to life, surgical intervention is required in only about 10% of cases. The following case illustrates a patient who initially presented with a pleural hematoma during hospitalization, masquerading as congestive heart failure.

AIM OF THE STUDY

MATERIALS AND METHODS

59-year-old man was brought to the emergency department at the Ludwik Rydygier Hospital in Krakow due to increasing shortness of breath that had been ongoing for a week. The patient was admitted to the cardiology department of this hospital in a stable condition. The chest X-ray revealed a significant amount of fluid in the left pleural cavity with no deviations on the right side. Furosemide and empirical antibiotic therapy were initiated. In the following days, the patient's condition improved, and a follow-up chest X-ray showed a decrease in the amount of fluid in the left pleural cavity. A repeat chest X-ray on the 12th day of hospitalization revealed a similar image to the previous one, with no significant change in the level of fluid in the pleural cavity. On the 15th day of hospitalization, a decision was made to proceed with pleural cavity drainage. During the procedure, bloody fluid emerged, prompting its interruption. A chest computed tomography (CT) scan was performed, confirming the presence of bloody fluid and a rib fracture with probable damage to the pleura. The next day, following a thoracic surgery consultation, a chest tube was inserted into the left pleural cavity. After the procedure, the patient reported experiencing a blunt chest trauma approximately 3 weeks earlier. Over the following days, a gradual improvement in the patient's health and well-being was observed. After the removal of the chest tube, necessary follow-up examinations were conducted, which did not reveal any significant deviations. The patient was discharged home on the 23rd day in good overall condition.

CONCLUSIONS

The above patient's story illustrates the significant impact that the so-called "anchoring bias" can have on the length and course of hospitalization, as well as demonstrating the crucial role of a well-collected and comprehensive medical history.

Title: Implantation of a Sapien 3 balloon-expandable valve in the mitral position in a patient with Hancock II 31 mitral bioprosthesis dysfunction.

Author(s): Adam Peciak; Krzysztof Krukowski

Tutor(s): Dr hab. n. med. Piotr Chodór

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Tutor(s) Affiliation(s):

INTRODUCTION

In current guidelines, reoperation remains the standard method for treating patients with dysfunction of implanted valves but is also associated with a greater risk. Transcatheter aortic valve implantation (TAVI) is considered a secure method for treating aortic stenosis, particularly in patients with multiple comorbidities and in the elderly. The success and increasing utilization of TAVI procedures have paved the way for transcatheter approaches such as valve-in-valve procedures. The Edwards Sapien 3 valve, initially designed for patients with aortic stenosis, has demonstrated efficacy in mitral procedures over time.

AIM OF THE STUDY

This case report demonstrates the efficacy of transcatheter aortic valve implantation (TAVI) as a safe alternative for patients with dysfunctional mitral bioprostheses and high surgical risk.

MATERIALS AND METHODS

Patient case report

CONCLUSIONS

With careful consideration, transcatheter implantation can emerge as a new standard of treatment for patients with dysfunctional mitral bioprostheses and high operative risk. Adequate planning, thorough diagnostics, and extensive experience are crucial for the successful implantation of a new valve within an existing bioprosthesis. Patient selection significantly influences procedural outcomes and subsequent rehabilitation.

Title: Oral anticoagulants use in patients with intracerebral hemorrhage

Author(s): Nikodem Rudy, Piotr Panek

Tutor(s): dr Anna Lasek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Head trauma can result in intracerebral hemorrhages (ICH) especially in elderly patients. Such
cases are associated with a mortality rate of 40-50% in the first days after an incident. Only 12-39% of patients regain independence in the first 6 months. ICH may also be related to direct oral anticoagulants (DOAC) use. This case report presents a patient on DOAC in whom an ICH has occurred.

AIM OF THE STUDY

An 84 year old male was admitted at Małopolskie Centrum Oparzeniowo-Plastyczne for a Basal Cell Carcinoma removal. The procedure was conducted with no complications. Subsequently thepatient suffered a head trauma. 30 minutes after the incident there was a rapid saturation decrease and a syncope in patient. The patient was transferred to the local Intensive Care Unit in critical condition. A computed tomography (CT) scan revealed an occipital bone fracture and an intracranial hematoma with cerebellar involvement. Considering the patient condition, a neurosurgical intervention was deemed inappropriate, and instead, compressive antithrombotic prophylaxis was initiated. Pharmacological antithrombotic treatment was not administered in the initial 4 days post-injury. However, after 4 days, Enoxaparin was introduced based on CT scan findings. Initially, CT scans indicated minimal progression of post-traumatic changes, followed by slight regression in subsequent days. Sedative drugs were removed after stabilising patient condition though he remained unconscious. The patient was referred to the Neurology Ward in vegetative condition and will be placed in a Care and Treatment Facility.

MATERIALS AND METHODS

CONCLUSIONS

The paramount consideration for this and similar cases is proper evaluation of anticoagulant treatment risks and benefits. Discontinuing can result in clot formation and further complications while keeping the treatment may promote bleeding. Available studies show that DOAC use before head trauma incidents did not alter patients prognosis but resulted in a larger neurosurgical interventions count. Vitamin K antagonists use before trauma resulted in higher in-hospital mortality. Patient's anticoagulant treatment was resumed after the procedure what made him more susceptible to bleedings. This case shows the importance of handling such patients with tailored methods and treatment schemes. Further research should focus on forming precise guidelines for
similar clinical scenarios.

Title: The Domino Effect. How an aortic dissection may lead to coagulation disorders during dabigatran treatment?

Author(s): Adrianna Zdańska, Zuzanna Panas, Marta Cabaj

Tutor(s): prof. dr hab. n. med. Edyta Zbroch, lek. Katarzyna Wilk-Śledziewska

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INTRODUCTION

The aortic dissection, defined as the tear of the innermost layer of the aorta and resulting in the pathological blood flow between the layers of the aortic wall, is associated with numerous complications, including an aortic rupture, a life-threatening hemorrhage, stroke, an aortic valve regurgitation and a renal failure. Moreover the renal failure changes the pharmacokinetics of many drugs and cause the appearance of side effects.

AIM OF THE STUDY

MATERIALS AND METHODS

A 78-year-old man with a history of multimorbidity was admitted to hospital due to melaena on dabigatran treatment. Physical examination revealed pallor, a diastolic heart murmur and an atrial fibrillation in electrocardiography. Laboratory results confirmed anemia, increased creatinine level and prolonged INR. Gastroscopy revealed gastritis. Non-vitamin K antagonist oral anticoagulants therapy was discontinued, blood was transfused, and Proton Pump Inhibitors were administered. Transesophageal echocardiography showed a thrombus in the left atrial appendage. Due to the patient disease burden, and stable aortic dissection in CT-angiography, cardiac surgeon disqualified patient from urgent intervention. Because of the left renal artery stenosis associated with the aortic dissection and deteriorating renal function, the reduced dose of apixaban was administered and the patient was referred to a Vascular Surgery Clinic for treatment plan.

CONCLUSIONS

This case shows how important it is to regularly monitor renal parameters during NOACs anticoagulant therapy. Undetected chronic kidney disease may lead to drug dose accumulation and contribute to serious bleeding complications. In our patient, progressive renal failure was caused by left renal artery stenosis caused by chronic aortic dissection. This clinical case shows the importance of taking a holistic view of the patient and adjusting pharmacotherapy to co-occurring diseases to minimize complications.

Title: From metrics to urinary continence: psoas muscle parameters in laparoscopic radical prostatectomy patients.

Author(s): Wanesa Góralczyk

Tutor(s): Przemysław Mitura MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Prostate cancer stands as one of the most prevalent cancers affecting men globally. The most common methods of its treatment involve radical prostatectomy, with laparoscopic or robotic techniques. Urinary incontinence (UI) is the most frequent complication following these procedures. There is one published study which has explored the influence of factors such as average total psoas density (ATPD) and psoas muscle index (PMI) on UI after prostatectomy. However, the available research predominantly focuses on patients from the Asian population who underwent robot-assisted radical prostatectomy (RARP).

AIM OF THE STUDY

Given the variations in both population and surgical methods, our study aims to evaluate the impact of ATPD and PMI on UI after laparoscopic radical prostatectomy (LRP) specifically within the part of European population.

MATERIALS AND METHODS

Materials and methods: This study involves a retrospective analysis of the medical records of 37 patients aged 50 to 80 who underwent LRP between years 2021 and 2022 at the Department of Urology and Urological Oncology of Medical University of Lublin, Poland. The evaluation is grounded in pre-LRP CT examinations (capturing images at level L3), encompassing patient age, height, and BMI as key parameters. CT measurements were quantified in Hounsfield Units, including the comprehensive area of both psoas muscles, denoting ATPD and PMI individually. The assessment of UI severity at intervals of 1, 3, 6, and 12 months post-LRP was gauged by the daily utilization of incontinence pads.

CONCLUSIONS

The observed correlation in our analysis diverges from antecedent results. A significant correlation between PMI and the incidence rates of UI is noted. ATPD, a metric indicative of myosteatosis, does not manifest a correlative association with UI rates. Our investigation posits sarcopenia as an independent variable exerting influence on the post-LRP UI incidence. Based on our results, there is a direct reliance on PMI values, which can be easily assessed through common diagnostic imaging techniques. Consequently, PMI assumes utility as a valuable determinant in the patients' surgical decision-making process, accounting for potential side effects.

Title: MORPHOLOGY OF GANGLIA SPINALIA – CURRENT STATE OF KNOWLEDGE AND OWN EXPERIENCE

Author(s): Marek Misiak

Tutor(s): prof. dr hab. med. Bogdan Ciszek

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The spinal ganglion (ganglia spinalia, GS, or dorsal root ganglion, DRG) contains the cell bodies of primary sensory neurons (first-order neurons). The structure of the GS is important for understanding the mechanisms of a number of diseases and the variability of the distribution of regional anesthesia. Neural recording and neurostimulation technologies require appropriate electrode placement, depending on the ganglion structure. The current generation of stimulators allows their percutaneous implantation under local anesthesia, which requires accurate and precise knowledge of the location and structure of the spinal ganglion. Occasional reports in the literature indicate the relatively frequent occurrence of biganglia in the lumbar nerves. However, the architecture of GS has not been described yet.

AIM OF THE STUDY

The aim of this study was to demonstrate the structure of the GS in the lumbar spine.

MATERIALS AND METHODS

The lumbar nerves L1–L5 were microanatomically dissected (Zeiss surgical microscope). Eight formalin (10%) fixed cadavers from the Department of Descriptive and Clinical Anatomy, Center for Biostructure Research, and WUM were included in the current study. Each nerve root and its ganglia were dissected from the surrounding tissues so that a total of 80 GSs from L1 to L5 were examined and analyzed morphologically.

CONCLUSIONS

It is unclear whether the presence of biganglia or triganglia affects the accuracy and quality of electrical stimulation of the ganglia. It is also currently unknown if the separate ganglia are functionally distinct. However, it can be speculated that the connective tissue between the ganglia influences the spread of impulses. Future studies should explore the presence of functionally distinct biganglia, as that would inform the placement of the electrode lead for GS.

Title: Surgical Management, Prevention and Outcomes for Aneurysms of Arteriovenous Dialysis Fistulas

Author(s): Adam Filip Płoński, Aleksandra Jurczuk

Tutor(s): Adam Płoński MD PhD, Jerzy Głowiński MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The escalating population of individuals afflicted with end-stage renal disease necessitates the provision of secure and efficacious vascular access for hemodialysis, with arteriovenous fistulas representing a preferred option. Nonetheless, the creation of dialysis fistulas may entail complications, including the occurrence of fistula aneurysms that may require surgical intervention.

AIM OF THE STUDY

This study included eight patients with large aneurysms of dialysis fistulas and aimed to evaluate the safety and effectiveness of classic, endovascular, or hybrid methods for fistula reconstruction or ligation, depending on the indications

MATERIALS AND METHODS

Vascular interventions were performed on patients on chronic hemodialysis and on those in whom hemodialysis was discontinued due to the proper functioning of the transplanted kidney.

CONCLUSIONS

Regular monitoring of dialysis fistulas is crucial to detect complications in time. Guidelines should be established to specify the dimensions at which fistula aneurysm should be excised and whether to remove asymptomatic aneurysms at all. For patients who have undergone kidney transplantation, outlines should indicate when the fistula should be preserved and when it should be ligated

Title: What discourages patients from having dental implants?

Author(s): J. Wawryniuk, W. Jaroma, G. Kornowska

Tutor(s): Dr. hab. n. med. Ewa Dolińska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Dental implants are an increasingly common option for oral cavity rehabilitation due to its functional, aesthetic, and social benefits. Decision about implant prosthetic treatment and the success of the therapy depends on patient awareness and expectations .The study aimed to assess patients knowledge about dental implants and identify factors that discourages from pursuing this treatment

AIM OF THE STUDY

The study aimed to assess patients knowledge about dental implants and identify factors that discourages from pursuing this treatment.

MATERIALS AND METHODS

Anonymous questionnaire was conducted among 100 patients at the Outpatient Clinic of the Department of Periodontal and Oral Mucosa Diseases, Medical University of Bialystok between February 16, 2023, and June 1, 2023. Study population included 66 females and 34 males, aged 18 to 79. The survey explored attitudes toward tooth replacement, awareness of indications, contraindications, and risks of implant failure, as well as knowledge about periimplantitis and other treatment implications Addition

CONCLUSIONS

Treatment with dental implants for the majority of patients requiring tooth replacement is not unequivocal. Various factors deter
patients from pursuing this treatment, including high costs and fear of complications. That is why improvements in quality of life
and economic conditions in Polish society could positively influence patient attitudes toward implants.

Title: Resuscitative thoracotomy in modified surgical approach for acute cardiac tamponade

Author(s): Aleksandra Barabasz, Stanisław Dudek

Tutor(s): Bartosz Sadownik, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Resuscitative thoracotomy provides rapid access to heart and major thoracic vessels. It is performed in patients with penetrating or blunt thoracic injury and allows direct control of hemorrhage or decompression of cardiac tamponade. It is usually performed through anterolateral incision, starting in the 4th or 5th intercostal space at the lateral edge of the sternum and curving along the submammary crease to the anterior axillary line.

AIM OF THE STUDY

MATERIALS AND METHODS

69-year-old female presented with a sudden onset of hypotension and desaturation during an elective percutaneous intervention. Echocardiographic examination revealed cardiac tamponade with 7mm of pericardial effusion. After a few minutes, the patient clinical condition deteriorated. Repeated echocardiography showed 15 mm of fluid in the pericardium. Despite intensified therapy, patient's clinical condition progressed to cardiac arrest with PEA. ALS was applied and attempts at pericardiocentesis were made. However they were unsuccessful so the decision on resuscitative thoracotomy was made. Due to a lack of equipment the team decided to make an incision under the rib arches using available basic surgical tools. The left lobe of the liver was pushed back, the bloated stomach was compressed, the diaphragm was visualized, incised and dilated, which gave direct access to the pericardial sac. The tamponade was directly punctured and decompressed, achieving ROSC. Initial evaluation of internal organs revealed no visible injury with minimal blood loss. After 7 minutes of hemodynamic stabilization, hypotension and bradycardia developed. USG reassessment revealed akinesis of the left ventricle and absence of signs of pericardial effusion, pointing to severe myocardial infarction. Due to BP of 40/20 mmHg, high efficiency direct cardiac massage was applied through a previously created incision. During procedure, SBP over 130 mmHg was generated. Massage was performed for 45 minutes. Then sternotomy was done by cardiac surgeon, who revealed akinesis of the left ventricle and massive coronary thrombosis. After 2 hours, in the absence of treatment options, intensive resuscitation efforts were withheld.

CONCLUSIONS

Decision on emergency room thoracotomy was made despite of lack of equipment. The procedure described in this case is unique due to the applied methods of proceeding. Direct access created with modified surgical approach can provide us with highly efficient pericardial drainage and direct cardiac massage.

Title: The giant and atypical parathyroid adenoma. Rare or predictable association? – case report

Author(s): Róża Maria Huszcza

Tutor(s): Piotr Wojskowicz MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Primary hyperparathyroidism is the third most frequent endocrine disorder. Parathyroid adenomas are responsible for 80-85% of cases. Giant parathyroid adenoma, defined as a tumor weighing more than 3.5 g, is a rare condition. Out of these, atypical parathyroid adenoma and parathyroid carcinoma represent about 1.2%-1.3% and 1% or less of primary hyperparathyroidism.

AIM OF THE STUDY

MATERIALS AND METHODS

This patient was a 36- year- old woman, with a history of nephrolithiasis, who presented with the palpable left-sided neck large mass, polydipsia, polyuria, muscle contractions, ostalgia and arthralgia for 1,5 year. On admission, laboratory tests showed high ionized and total blood calcium, significantly elevated parathyroid hormone, increased alkaline phosphatase and decreased phosphorus levels. Ultrasound revealed a complex lesion with solid and cystic components, with 45x33x30 cm estimated dimensions, located in the lower part of the left thyroid lobe. X-ray showed osteolytic lesions in many bones. MIBI scintigraphy with 99mTechnetium showed a large nodule below the left lobe of thyroid gland, corresponding to left inferior parathyroid adenoma. The patient was diagnosed with giant parathyroid adenoma and qualified for surgery. Woman underwent parathyroidectomy under general anesthesia resulting in the removal of large 11 grams and 4x3x2 cm parathyroid mass. The final histopathology revealed an atypical parathyroid adenoma. The patient was discharged home in good general condition the day after surgery

CONCLUSIONS

Giant parathyroid adenoma is a rare type of parathyroid adenoma. Atypical parathyroid adenoma is much rarer but research showed that the incidence of atypia increased to 33% in tumors weighing more than 10 g. Patients with atypical parathyroid adenoma present with significantly elevated serum calcium, parathyroid hormone, alkaline phosphatase levels and prominently greater size of adenoma. These factors could be used as biomarkers of atypical parathyroid tumors

Title: How long can fat pad live in the abdomen? - about complications after hernias surgery.

Author(s): Tanishka Kaul, Dominika Mysiorska

Tutor(s): Natalia Dowgiałło-Gornowicz MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Umbilical hernias are ubiquitous and can range from small (<1 cm) to very large hernias. Treatment options should be tailored to the clinical situation. Laparoscopic techniques such as intraperitoneal onlay mesh repair (IPOM), TAPP (Transabdominal Preperitoneal) and TEP (Totally Extraperitoneal) have been used and refined in hernia surgery for several years. Although outcomes are generally favorable after umbilical hernia repairs, some patients have chronic complaints that are mostly related to recurrences. Small bowel obstruction due to adhesions, mesh infection, erosion, and enterocutaneous fistula are the most relevant complications described, which are presumably the cause of interaction of the mesh with the visceral organs

AIM OF THE STUDY

MATERIALS AND METHODS

A 49-year old patient was admitted to the Surgical Department with signs and symptoms of abdominal pain lasting about 3 months after IPOM surgery performed on 20.11.2023. Ultrasound examinations from 18.01.2024 show any signs of hernias' recurrence although a layer of fluid in the right iliac fossa and a broadened intestinal wall which might be a sign of irritation of the intestine by mesh tackers. Further MRI confirmed those findings. The US from March showed 35mm dehiscence

CONCLUSIONS

Before choosing a method of treatment for a patient with umbilical hernia many factors should be considered - rates of umbilical stalk vascularization, hernia recurrence, and mesh infection Ventral-TAPP procedures represent an alternative technique to laparoscopic IPOM repair to reduce the risk of complications related to intra-peritoneal position of mesh and fixating devices. Postoperative pain level and hospital stay are significantly lower. TAPP and TEP are innovative approaches which avoid the contact of the mesh with the intestines, thus avoiding the potential complications and generating good outcomes and at a lower cost.

Title: Case Report: Surgical Interventions for Managing Osteopetrosis in Adolescents

Author(s): Jeremi Matysek

Tutor(s): DR N. MED. KRZYSZTOF DOWGIERD

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INTRODUCTION

Osteopetrosis, also known as "marble bone disease," encompasses various hereditary metabolic bone disorders. These conditions disrupt normal bone growth and remodeling, resulting in widespread osteosclerosis. This increased density makes bones more prone to fractures and can also lead to pancytopenia and, in severe cases, issues such as cranial nerve compression and enlarged liver and spleen. We present a case of a 14-year-old female diagnosed with osteopetrosis who underwent extensive surgical interventions due to complications arising from the disease.

AIM OF THE STUDY

The patient, a 14-year-old female, was admitted to the Regional Specialized Children's Hospital in Olsztyn for evaluation and management of osteopetrosis complications. Physical examination upon admission revealed cachexia, muscle wasting, and characteristic findings associated with osteopetrosis, including grayish skin color and proptosis. Splenomegaly and hepatomegaly were noted, along with joint contractures in the lower extremities The patient medical history reveals a complex array of symptoms and treatments spanning several years, including hydrocephalus, ventriculoperitoneal shunt placement, recurrent hospitalizations for jaw inflammation and abscess formation, as well as unsuccessful attempts at bone marrow biopsy. Genetic testing confirmed pathogenic mutations in the CLCN7 gene, corroborating the diagnosis of osteopetrosis. In February 2024, the patient was admitted to the Department of Oncology and Hematology due to severe anemia requiring blood transfusions. Surgical intervention in the Pediatric Head and Neck Surgery Clinic - Maxillofacial Surgery Department in Olsztyn involved reconstruction of soft tissue defects in the anterior segment of the maxilla, utilizing a submandibular flap harvested from the left mandibular angle. Osteotomies were performed to remove necrotic bone tissue, followed by meticulous closure of the defect with flap inset. Postoperatively, the patient was weaned off analgosedation and extubated successfully.

MATERIALS AND METHODS

CONCLUSIONS

This case highlights the challenges in managing complications of osteopetrosis and the multidisciplinary approach required to address its diverse manifestations. Further research and collaboration are necessary to optimize treatment strategies and improve outcomes in patients with this rare genetic disorder.

Title: Immunological background of anti-cancer responses modulated by immune checkpoint inhibitors in non-small cell lung cancer (NSCLS) in vitro model.

Author(s): Marcin Antoniuk,Jakub Brodowski

Tutor(s): Assoc. Prof. Kamil Grubczak

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Lung cancer is the leading type of cancer with high morbidity and mortality regardless of patient's gender. Non-small-cell lung cancer (NSCLC) accounts for about 85% of all lung cancers. Current treatment for NSCLC is based on surgical resection, chemotherapy, radiotherapy, and targeted therapy, with poor therapeutic effectiveness. Immunotherapy with immune checkpoint inhibitors (ICIs) has revolutionized the treatment of NSCLS. Despite much progress in the understanding of immunological responses to ICI in lung cancer, there are still many knowledge gaps to fill

AIM OF THE STUDY

Our study aimed to assess anti-cancer immunological responses modulated by immune checkpoint inhibitors in the NSCLS in vitro model

MATERIALS AND METHODS

Lung cancer A-549 and H2030 cells were cultured in the presence of PBMC and selected immune checkpoint inhibitors: anti-CTLA-4, anti-PD-1, anti-PD-L1. After 48 hours, cancer cells were collected to assess changes in proliferation and viability by flow cytometry. Similarly, PBMC was collected to evaluate the differences in their activation status. Finally, cell culture supernatants were used for the assessment of secreted cytokines.

CONCLUSIONS

Our study showed that the application of immune checkpoint inhibitors modulated immunological response in a way that allowed the maintenance or improvement of at least the anti-cancer effects obtained in the co-culture of lung cancer cells with PBMC. Our study provides the basis for further research on the selected ICI effects on anti-cancer responses and their potential for application in NSCLC therapy.

Title: "Matrix Metalloproteinases: Their Role in Human Urinary Bladder Carcinoma Diagnosis"

Author(s): Konrad Bagiński, Grzegorz Młynarczyk

Tutor(s): dr n. med. Grzegorz Młynarczyk

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Bladder cancer poses a significant health challenge, being the fourth most common cancer in men and the eighth in women. The process of carcinogenesis, its migration, and invasion are associated with the degradation of the extracellular matrix. One of the key factors in this degradation is matrix metalloproteinases (MMPs). These are proteolytic enzymes that specifically degrade components of the extracellular matrix (ECM), such as collagen, elastin, fibrinogen, and proteoglycans. Therefore, they can be divided into individual subtypes: collagenases (MMP-1, MMP-8, MMP-13, MMP-18), gelatinases (MMP-2, MMP-9), stromelysins (MMP-3, MMP-10, MMP-11), matrilysins (MMP-7, MMP-26), membrane-type MMPs (MMP-14, MMP-15, MMP-16, MMP-17, MMP-24, MMP-25), and others (MMP-12, MMP-19, MMP-20, MMP-21, MMP-23, MMP-27, MMP-28)

AIM OF THE STUDY

To evaluate the expression, content, and activity of MMPs in tumor tissue compared to control tissue. Analysis of research results for individual metalloproteinases; overall interpretation based on the findings and the latest literature.

MATERIALS AND METHODS

20 patients with urothelial cancer were included in the study. Examined tissue was obtained from macroscopically visible tumors. Patients were divided into two groups: 10 with low-grade (LG) and 10 with high-grade (HG) cancer. Control was collected from the opposite side of the bladder. Collagen content was determined with a hydroxyproline test, and MMP content using ELISA and Western blot. Activity was measured on pre-incubated microplates with appropriate antibodies.

CONCLUSIONS

The content and activity of the enzymes and inhibitors studied indicate different contributions of MMPs to the remodeling of the extracellular matrix at different stages of tumor development. Furthermore, the research results suggest that gelatinase MMP-9 has high clinical utility and may be used as a potential therapeutic option and diagnostic biomarker for bladder cancer, while membrane-type MMP-14 may serve as a predictor of metastatic risk

Title: Effect of COVID-19 infection on the development of atherosclerosis based on intima-media thickness progression: the preliminary study

Author(s): Emilia Bielecka, Paulina Pietraszko

Tutor(s): prof. dr hab. Edyta Zbroch

Affiliation(s):

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INTRODUCTION

COVID-19 infection is primarily recognized for its acute respiratory symptoms, yet emerging reports suggest potential effects on the cardiovascular system. Considering the evidence supporting the inflammatory theory of atherosclerosis development and progression, there is a possibility that COVID-19 infection may serve as a risk factor for atherosclerosis.

AIM OF THE STUDY

The objective of this study was to examine the impact of symptomatic COVID-19 infection on atherosclerosis development through the assessment of changes in common carotid artery intima-media thickness. We present the preliminary findings of our investigation.

MATERIALS AND METHODS

A total of 33 patients were enrolled in the study, with 16 assigned to the study group, comprising individuals with a history of COVID-19, and 17 in the control group. Intima-media thickness (IMT) measurements were obtained using ultrasonography, conducted twice with an interval of 12-18 months. Comparative analysis of results was performed between the study and control groups.

CONCLUSIONS

Our results suggest the possible impact of COVID-19 infection on the development of atherosclerosis. Further studies are needed to better understand the pathophysiological mechanisms and long-term consequences of this phenomenon, and to consider possible preventive and therapeutic strategies

Title: Analysis of biochemical and hematological parameters of patients with Ph-negative myeloproliferative neoplasms.

Author(s): Piotr Halicki

Tutor(s): Jarosław Piszcz, MD, PhD, Assoc. Prof.

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Myeloproliferative neoplasms (MPN) are rare cancer diseases characterized by clonal proliferation of cells of the myeloid line. Classically, they are divided into cancers with the presence of the Phlidalephia chromosome (MPN Ph+) and without the presence of the Phlidalephia chromosome (MPN Ph-), which include polycythemia vera (PV), essential thrombocythemia (ET) and myelofibrosis (MF).

AIM OF THE STUDY

The primary objective of this investigation was to evaluate the basic biochemical and hematological parameters available in routine diagnostics and then to compare and assess the differences between various MPN Ph-. Additionally, it aimed to identify specific parameters that distinguish patients with secondary polyglobulia (SnP) from those with polyglobulia resulting from PV.

MATERIALS AND METHODS

As part of the project, research material was collected from patients with PV (n=26), ET (n=19), MF (n=7) and SnP (n=20). All patients were tested for JAK2 V617F, CARL and MPL gene mutations. The test material (venous blood) was collected into vacuum tubes (closed systems): 1x9ml tube with accelerated clotting (serum) and 2x5.5ml tube with 3.2% sodium citrate (plasma) during routine diagnostic tests for MPN in Hematology Department of Medical University of Bialystok

CONCLUSIONS

While variances in basic laboratory parameters among patients, may indicate an increased probability of cancer, further investigation is needed to identify biomarkers indicative of these malignancies. Hence, there is a planned assessment of the metabolomic profile across these distinct patient cohorts, aiming to provide deeper insights into neoplasm pathophysiology

Title: The prognostic and therapeutic significance of expression of CTLA-4 in CLL - a review of recent reports

Author(s): Katarzyna Kulszo, Alicja Maziarczyk, Arkadiusz Ści

Tutor(s): dr nauk biol. Grażyna Stasiak

Affiliation(s):

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INTRODUCTION

Chronic lymphocytic leukemia (CLL) is one of the most common types of leukemia. In the course of the disease, there is clonal proliferation and accumulation of mature lymphocytes in the blood, bone marrow, lymph nodes and spleen. The main functions of cytotoxic T-lymphocyte-associated protein 4 (CTLA-4) are inhibition of T-cell function and maintenance of immune tolerance. In the course of CLL, there is increased expression of surface and cytoplasmic CTLA-4 on T lymphocytes, resulting in a strong suppression of T-cell effector functions.

AIM OF THE STUDY

The aim of this study is to present the prognostic and therapeutic significance of CTLA-4 molecules in CLL.

MATERIALS AND METHODS

Data was collected from Pubmed from the period 2017-2024 by searching the following keywords: “CLL”, “CTLA-4”, “anti-CTLA-4 monoclonal antibodies”.

CONCLUSIONS

CTLA-4 may be an important prognostic factor in CLL patients. Given the significant role of CTLA-4 molecules in the course of CLL, monoclonal antibodies blocking CTLA-4 could provide a highly effective alternative to traditionally used therapies and contribute to a significant improvement in the prognosis of patients.

Title: Autoimmune hepatitis - an unspecific outcome of immunotherapy in a patient with clear renal cell carcinoma.

Author(s): Grzegorz Kurec, Oliwia Burdan

Tutor(s): Katarzyna Szklener MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The 77-year-old patient presented to the Department of Oncology and Chemotherapy at SPSK4 in Lublin with suspected left kidney cancer. After imaging examinations performed at the department, the patient was scheduled for radical left nephrectomy. The pathomorphological examination result confirmed the presence of G3 pT3A clear cell carcinoma. After surgery, maintenance immunotherapy with pembrolizumab was administered, as the patient was at high risk of cancer recurrence due to the type of lesion. After about 1.5 years of very good response to cycles of immunotherapy, the patient developed features of hepatitis, which is very rarely noted during pembrolizumab therapy. Unfortunately, despite the supportive treatment, the results of liver tests continued to deteriorate, which forced the medical team to discontinue further administration of the immunotherapeutic. The patient is currently waiting for the best therapeutic pathway for her health to be developed.

AIM OF THE STUDY

Increasing oncology vigilance on immuno-resistance to develop new mechanisms to break resistance in patients.

MATERIALS AND METHODS

A detailed review of the medical history of the described patient and a review of scientific publications from 2020-2024 on epidemiology, diagnosis, treatment of clear cell renal cell carcinoma in pubmed, google scholar databases

CONCLUSIONS

Despite tremendous advances, especially in targeted therapies, RCC remains the most lethal cancer of the genitourinary tract. Innovative immunotherapy provides an alternative route to cancer treatment. Nonetheless, it is fraught with the risk of patients becoming resistant to the drug. That's why it is so important for the development of oncology to learn about the mechanisms of resistance and to develop resistance-breaking therapies to take care of the health and life of the oncology patient.

Title: Toward Understanding Post-COVID Neurocognitive Effects: A Comparative Study

Author(s): Katarzyna Maciorowska-Rosłan

Tutor(s): Prof Anna Moniuszko-Malinowska , Maciej Alimowski, Piotr Paweł Laskowski, Prof Karol Kamiński

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Post-COVID syndrome, also known as long-term symptoms of COVID-19 or long COVI refers to a variety of symptoms and complications that can occur in individuals who have had COVID-19, regardless of the severity and duration of the initial infection. These include psychiatric disorders such as depression and anxiety, as well as problems with concentration and memory, commonly referred to as „COVID-19 brain fog. This suggests a complex interaction of various physical and psychological factors rather than a simple cause-and-effect relationship of a specific disease process

AIM OF THE STUDY

The aim of this study was to examine the presence of neurological cognitive consequences in patients 6 months after recovering from COVID-19 compared to a matched group of patients from the general population who did not experience COVID-19.

MATERIALS AND METHODS

The study examined 44 COVID-19 survivors (25 woman, 19 man) versus 75 controls (34 woman, 41 man) who did not experience COVID-19. Control group mean age: 70.99 (± 4.13), research group: 69 (± 4.14). Cognitive function was assessed using the MoCA test. A linear regression model, incorporating treatment, covariates, and their interaction, was utilized, with full matching weights applied. We applied full matching on propensity score, using age, gender, and years of education as covariates.

CONCLUSIONS

We can speculate that recovering from COVID-19 does not lead to long-term significant neurological changes, which could challenge the existence of neurological post-COVID. Further research on this topic is required.

Title: Pelvic Actinomycosis – a Case Report

Author(s): Ahmad Reza Rezaei

Tutor(s): Prof. Dr. Anna Moniuszko-Malinowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pelvic actinomycosis, a rare bacterial infection primarily caused by Actinomyces species, notably A. israelii, poses diagnostic challenges due to its diverse clinical presentations often mimicking gynecological malignancies. While cervicofacial infection predominates, pelvic involvement, especially in women with a history of intrauterine contraceptive device (IUD) use, underscores the importance of vigilance in clinical practice. Prompt IUD replacement is recommended to reduce infection risk, given the association with disruption of the mucosal barrier. Studies suggest replacement intervals of 2-5 years. Other risk factors include immunosuppression, HIV infection, and invasive procedures such as surgery, contributing to local tissue damage.

AIM OF THE STUDY

In this instance, a 59-year-old female with a complex medical history presented with chronic lower abdominal pain and persistent vaginal discharge over a 2-year period, while the IUD was removed 8-10 years ago. While laboratory findings and imaging studies remained unremarkable, histopathological examination revealed a bacterial infection consistent with actinomycosis. Initiation of ceftriaxone therapy alleviated the symptoms, yet persistent bleeding prompted a surgical approach, leading to laparoscopic hysterectomy with adnexectomy

MATERIALS AND METHODS

CONCLUSIONS

Pelvic actinomycosis, mimicking gynecological malignancies, presents diagnostic challenges, with histopathology playing a crucial role in accurate diagnosis. Integrated management strategies combining antibiotics and surgical intervention proved instrumental in achieving therapeutic success and preventing further complications. Subsequent follow-up confirmed the efficacy of the treatment, reaffirming the role of timely intervention in mitigating the sequelae of this infection.

Title: Clinical characteristics and treatment results of rare endocrine malignancy

Author(s): Zuzanna Roszkowska

Tutor(s): Małgorzata Bobrowicz MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Adrenocortical Carcinoma (ACC) represents a rare endocrine malignancy of the adrenal gland, exhibiting an incidence of 0,7-2 cases per million annually, and is characterized by an unfavorable prognosis. Radical surgical intervention remains a sole curative modality and novel therapeutics are actively being investigated with mitotane standing as the principal pharmacotherapeutic approach in both palliative and adjuvant contexts.

AIM OF THE STUDY

The objective of this study is to present the clinical picture of ACC patients hospitalized in he Department of Internal Medicine and Endocrinology at the Medical University of Warsaw. Our analysis summarized the demographic aspects, initial symptoms, as well as subsequent treatment modalities, including surgical intervention, mitotane, radio- and chemotherapy.

MATERIALS AND METHODS

A retrospective examination of patient records from the Department of Internal Medicine and Endocrinology at the Medical University of Warsaw spanning from 2015 to 2024 forms the basis of this study.

CONCLUSIONS

Within the specified timeframe, 33 patients diagnosed with ACC received treatment at the Department of Internal Medicine and Endocrinology, with a notable predominance of female patients (70%). Initial clinical presentations commonly manifested as symptoms indicative of adrenal hormone excess, notably severe hypertension and poorly controlled diabetes mellitus, with some patients also reporting abdominal discomfort and distension. Mitotane therapy was uniformly initiated, and surgical intervention was pursued in the majority of cases (30 out of 33).

The findings corroborate existing epidemiological trends, highlighting the predilection of ACC for women in their fourth or fifth decades of life. Clinical presentations typically align with manifestations of adrenal hormone hypersecretion or abdominal mass growth, underlining the importance of early recognition and intervention in managing this malignancy.

Title: Assessment of the therapeutic potential of abdominoplasty skin-based acellular dermal dressings for the treatment of deep and diabetic wounds in the experimental mice models

Author(s): B Hanczaruk, A Janucik, M Tynecka, J Holl, D Groth

Tutor(s): Dr hab Andrzej Eljaszewicz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Chronic and hardly healing wounds remain one of the ubiquitous global health concerns. Nowadays, skin substitutes and skin-based dressings are considered complementary therapy for deep wound treatment. Recently, members of our group developed a novel human acellular dermal matrix (hADM) based dressing prepared from abdominoplastic skin acquired from bariatric donors.

AIM OF THE STUDY

Here, we aimed to assess the efficacy of our novel hADM in healing process of deep and diabetic wounds.

Skin fragments collected from post-bariatric patients after abdominoplastic surgery were subjected to three decellularization protocols, namely: hADM1) 1M NaCl and sodium dodecyl sulfate (SDS); hADM2) 2M NaCl and SDS; hADM3) trypsin and Triton X-100. The presence of cellular components and extracellular matrix structure was assessed using histochemical and immunohistochemical staining.

MATERIALS AND METHODS

Moreover, our novel hADM immunogenicity was analyzed in the T-cell proliferation assay. Finally, optimized hADM was subjected to experimental mice models to assess the effect on deep wound healing (WT mice) and diabetic wound healing in leptin receptor knockout mice (db/db mice). Wound healing kinetics was measured daily, and a gene expression assay was performed to assess potential mechanisms of novel dressing therapeutic potential.

CONCLUSIONS

We found that all three decellularization protocols were efficient and preserved typical extracellular matrix characteristics. Interestingly, we found hADM1 to be less immunogenic compared to its counterparts. Daily wound measurements in the deep wound healing model revealed no differences among investigated hADM in the inflammatory phase, while hADM1 significantly increased wound closure in the proliferation phase. Next, we implemented the hADM1 to diabetic wound healing model in db/db mice. We found that hADM1 improves wound closure and increases the expression of collagens (Col5a3, Col5a2), integrins (Itga6, Itgb3), and matrix metalloproteinases (Mmp9 Mmp1a) in the proliferation phase.

In summary, we developed a protocol for the preparation of novel abdominoplasty skin-derived hADM with therapeutic potential for deep and diabetic wound healing. Further studies are needed to provide information on hADM1 safety and efficacy in clinical settings.


Congress for You
BIM
10 - 12 MAY

Title: Assessment of the effect of cyanidin 3-O-galactoside on the type of death of hepatocytes exposed to paracetamol - in vitro model studies

Author(s): Aleksandra Jurczuk, Adam Filip Płoński

Tutor(s): dr hab. Maria Jurczuk, prof. dr hab. Adam Hołownia

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Paracetamol (APAP) is a common cause of acute poisoning. Poisoning with APAP leads to liver failure. A widely accepted treatment for APAP poisoning is the use of N-acetylcysteine. In recent years, research attention has focused on the possibility of using natural antioxidants such as anthocyanins in the prevention and treatment of the hepatotoxic effects of APAP. Anthocyanins occur in free form or as cyanidin glycosides such as 3-O-galactoside (Cy3Gal). The aim of the study in in vitro model was to evaluate the effect of Cy3Gal on the mode of death of hepatic cells of HepG2 line cultured with APAP at hepatotoxic concentration. The study was conducted in an in vitro model on transfected HepG2 hepatoblastoma cells expressing CYP2E1 isoform (E47).

AIM OF THE STUDY

Cells were cultured in MEM medium in an incubator in an atmosphere of 5% CO2 and at 37°C under sterile conditions. To E47 cells, APAP was added both separately and in combination at a concentration of 5mM/cm3 of culture and solutions of Cy3Gal in saline at concentrations of 20μM, 100μM and 200μM/cm3 of culture. The control group consisted of cell cultures without the addition of APAP and Cy3Gal. E47 cell cultures were incubated for 24 h in an above conditions.

MATERIALS AND METHODS

After incubation, the type of death, apoptosis or necrosis was assessed in the cell supernatants by flow cytometry. Addition of APAP to HepG2 cells resulted in a decrease in the percentage of live cells, an increase in the number of cells with apoptotic features with a concomitant decrease in necrotic cells. The number of viable cells in E47 cell culture samples to which APAP and Cy3Gal were added simultaneously was at the level of values in the control group.

CONCLUSIONS

The protective anti-apoptotic effect of Cy3Gal against the apoptotic effect of APAP depended on the concentration of anthocyanin. A complete protective effect was noted at the highest concentration of the anthocyanin, at lower concentrations this effect was partial. A reduction in the percentage of dead cells was noted in E47 cells after exposure to APAP. Addition of Cy3Gal at different concentrations to cells exposed to APAP resulted in an even greater reduction in cells with necrotic features relative to both control and APAP-intoxicated cells.

APAP at hepatotoxic concentrations can induce hepatocyte death by apoptosis. Cy3Gal exhibits a protective effect against the apoptotic effect of APAP on liver cells. The protective anti-apoptotic effect of Cy3Gal is probably due to its potent antioxidant activity.


Congress for You
BIM
10 - 12 MAY

Title: Recognizing the Varied Clinical Presentations of Schizophrenia: a case report.

Author(s): Agata Kolanek, Roman Cemaga

Tutor(s): Jacek Bida

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

World Health Organization ranked Schizophrenia as one of the top 10 illnesses contributing to the global burden of disease. Approximately 0,5-1% people Worldwide suffer from this chronic psychiatric disease characterized by occurance of psychosis. Schizophrenia is called a disease of the young because more than half of cases begin before the age of 30, symptoms include positive, negative symptoms, Cognitive impairment, Mood and anxiety symptoms. Schizophrenia can take the following forms: paranoid, hebephrenic, catatonic, simple, residual and undifferentiated, the latter of which is rare and is characterized by the lack of predominance of some symptoms over others and their variability.

AIM OF THE STUDY

17-years old patient previously hospitalized once with a history of undifferentiated schizophrenia,was admitted to the Department of Child & Adolescent Psychiatry in Białystok due to deterioration of his mental condition. Symptoms of derealization, pallid affect, withdrawal, inhibition of thinking, akathisia, and thought content disorders of the nature of influence and self-delusions were observed. So far, olanzapine has been used in the treatment.

MATERIALS AND METHODS

CONCLUSIONS

Every physician, irrespective of their specialization, will inevitably encounter patients afflicted with schizophrenia during their clinical practice. While paranoid schizophrenia stands as the most prevalent subtype, clinicians may also confront cases of undifferentiated schizophrenia characterized by ambiguous symptoms, thereby presenting diagnostic complexities. Consequently, it is imperative to acknowledge and retain awareness that schizophrenia can manifest in variations deviating from the prototypical clinical presentation commonly associated with this psychiatric disorder.

Title: Scooter-related accidents as a reason for admitting pediatric patients to the Emergency Department - data analysis

Author(s): Krzysztof Białkowski1, Zuzanna Matysiuk1, Dorota Rutkowska 2, Daniel Duchń-Ogrodnik 2, Tomasz Kłosiewicz

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Affiliation(s): 1 Students' Scientific Circle of Emergency Medicine, Poznan University of Medical Sciences, Poznan, Poland
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Tutor(s) Affiliation(s):

INTRODUCTION

Worldwide, scooters—both electric and conventional—have become a popular means of transportation among minors due to their convenience and affordability. Scooter-related injuries among pediatric populations have emerged as a significant public health concern globally. Official police records indicate an increase in the number of scooter accidents involving children. However, the lack of proper traffic laws, helmets, and guards has resulted in an increased occurrence of accidents. Moreover, there are no clear data on the pattern of injuries in this group of patients in the Polish population.

AIM OF THE STUDY

This study aims to present objective insights into the patterns of scooter-related injuries among the pediatric population.

MATERIALS AND METHODS

We conducted a retrospective analysis of patients admitted to the Emergency Department whose injuries were related to scooters between April 2019 to March 2022.

CONCLUSIONS

During a span of 24 months, the Emergency Department attended to 211 pediatric patients who were admitted due to scooter-related accidents. This group comprised 144 boys and 67 girls. The average age was 9.8 years old, with a median age of 10 years old. The youngest patient was 2 years old. The patients stayed in the emergency room for an average of 134 minutes. The most common reason for injury was a rider fall (84.83%). Collisions accounted for 4.74% of the cases, while the cause was unknown in other cases. Most often, injuries concerned the upper extremity (41.23%), followed by the lower extremity (26.07%), and the head (18.96%). Fractures were diagnosed in 83 patients (39.34%), followed by contusions in 77 cases (36.49%); the rest occurred less frequently. A plaster cast was necessary in 100 cases (47%), while wound suturing was performed in 27 patients (12.7%). Thirty patients (14.2%) required admission to the hospital; they were sent to pediatric surgery or orthopedics departments.

Title: Interdisciplinary approach in the prevention of iron deficiency in physical-active adolescents

Author(s): Jakub Perkowski

Tutor(s): PhD Monika Grabia, Prof. Katarzyna Socha, Assoc. Prof. Renata Markiewicz-Żukowska

Affiliation(s): 1 Scientific Club in the Department of Bromatology 2 Department of Bromatology, Faculty of Pharmacy with the Division of Laboratory Medicine, Medical University of Białystok, 2D Mickiewicza

Tutor(s) Affiliation(s):

INTRODUCTION

Iron deficiency anaemia (IDA) in athletes is common due to especially increased iron losses during exercise. IDA can have a detrimental effect on an athlete's performance and make it difficult to maintain iron (Fe) at optimal levels. The existing research in this area on young football players is limited. The purpose of this study was to assess the risk of IDA among physically-active adolescents, as well as to propose specific roles for individual specialists as part of the interdisciplinary team to prevent or treat IDA. A group of 36 young athletes (13-17 years) from the Jagiellonia Białystok Football Academy were included in the study. Dietary Fe intake was assessed by 24-hour dietary interviews. The frequency, duration of training and supplementation used were recorded. The following haematological parameters were measured: blood haemoglobin (HGB), red blood cell (RBC) count and haematocrit (HCT). The evaluation of predisposition to IDA development was based on the reduction of at least two blood parameters. A study has revealed that over 30% of physically active adolescents are at risk of developing IDA. These individuals had significantly (p<0.001) lower median levels of HGB (13.5g/dl), RBC (4.73mln/µl) and HCT (39.45%) compared to non-predisposed individuals (14.9g/dl, 5.15mln/µl and 43.45%, respectively). It was observed that more predisposed than non-predisposed participants had longer exercise sessions of up to 120 minutes (50% vs. 42%) and trained one or more times a day (92% vs. 87%). The median dietary intake of Fe was 14.4 mg/day. It was found that 36% of the subjects supplemented Fe, and their dietary Fe intake was significantly higher than that of the non-supplementers. Physical-active adolescents are at risk of developing IDA. It is advisable to maintain adequate dietary iron intake, along with appropriate supplementation and medical care chosen in consultation with interdisciplinary team.

AIM OF THE STUDY

The purpose of this study was to assess the risk of IDA among physically-active adolescents, as well as to propose specific roles for individual specialists as part of the interdisciplinary team to prevent or treat IDA.

MATERIALS AND METHODS

A group of 36 young athletes (13-17 years) from the Jagiellonia Białystok Football Academy were included in the study. Dietary Fe intake was assessed by 24-hour dietary interviews. The frequency, duration of training and supplementation used were recorded. The following haematological parameters were measured: blood haemoglobin (HGB), red blood cell (RBC) count and haematocrit (HCT). The evaluation of predisposition to IDA development was based on the reduction of at least two blood parameters.

CONCLUSIONS

Physical-active adolescents are at risk of developing IDA. It is advisable to maintain adequate dietary iron intake, along with appropriate supplementation and medical care chosen in consultation with interdisciplinary team.

Title: Sun safety awareness and habits- parental survey-based study

Author(s): Maria Qaheri, Aleksandra Kołcz

Tutor(s): Prof. dr hab. n. med. Anna Baran

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Due to the increasing incidence of skin cancer in the last decades, recognizing the importance of effective applying SPF products on children is crucial for parents in preventing skin cancer and sunburns in their little ones.

AIM OF THE STUDY

To assess parental awareness and knowledge regarding the sun protection including application of SPF and other preventive behaviours in their children and themselves.

MATERIALS AND METHODS

In 2023 an anonymous online survey was carried out among 204 parents. They filled general and specific questions regarding their experience using SPF products, as well as other methods of sun protection.

Out of the entire parent group, 86.3% applied SPF for their children, while 83.8% used them for themselves. Among parents not using SPF on children (13.7%), 67.9% also avoided it for themselves. The majority of parents (78%) who applied SPF on children started using them when the kids were under 12 months. Over 60% used one sunscreen container for over 6 months. Among the 80% of parents using SPF incorrectly, 34.3% applied it irregularly, 16% used it once a day, and 29.1% at intervals exceeding 4 hours. Almost 2/3 applied SPF just before or after their child's sun exposure. Approximately 15% reported that their child experienced sunburn in the past. 31% of parents were unaware that sunburn predisposes to skin cancer. Among parents whose children had naevi, 72% did not consult a dermatologist for examination, and 81.5% were unaware of the ABCDE rule.

CONCLUSIONS

The results indicate a need for improving parental awareness on sun protection practices, SPF application, and knowledge about naevi and skin cancer prevention. Educational initiatives might reduce the risk of developing melanoma and other skin cancers in the future.

Title: Discovering via big data analysis the heightened prevalence of allelic variations conferring protection against coronary artery disease, type I diabetes, or Alzheimer

Author(s): Alicja Sikorska

Tutor(s): dr hab. Tomasz Wilanowski

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Genes belonging to the Grainyhead-like (GRHL) family encode transcription factors that play indispensable roles in numerous biological processes. In mammals, three primary orthologues—Grainyhead-like 1, 2, and 3—regulate genetic pathways influencing neural tube closure, epidermal barrier integrity, and craniofacial skeleton development. However, alterations in their expression levels, often induced by genetic mutations, have been implicated in a spectrum of disorders including prostate cancer, breast cancer, spina bifida, and deafness. Despite significant progress in understanding their roles, many aspects of GRHL gene functions remain enigmatic, with the more intricate functionalities yet to be explored. The primary objective of my master's research is to shed light on previously unreported associations between the GRHL gene family and specific pathological conditions. To achieve this, comprehensive big data analyses were undertaken to delineate potential avenues for future research endeavors. Leveraging various bioinformatics methodologies, extensive data pertaining to the GRHL1, GRHL2, and GRHL3 loci were scrutinized utilizing an array of databases including Genome-Wide Association Studies (GWAS) for identifying genetic loci linked with diseases, Gene Expression Omnibus (GEO) for profiling gene expression patterns, Expression Atlas for investigating gene expression across different conditions using techniques such as RNA-Seq and Microarray, ArrayExpress for analyzing functional genomics data, and UCSC Genome Browser for examining genome sequences across diverse species. For instance, through the implementation of these sophisticated analytical techniques, a compelling correlation between the transcription factor GRHL2 and longevity, particularly in individuals aged over 95 years, was unearthed. This intriguing finding suggests that offspring born to long-lived parents may inherit a higher frequency of allelic variants that confer protection against prevalent age-related diseases such as coronary artery disease, type I diabetes, or Alzheimer's disease.The study underscores the critical role of Grainyhead-like genes in vital biological processes, with alterations in their expression linked to various disorders. These findings emphasize the importance of further exploring GRHL genes' roles in health and disease, offering potential insights for future research and therapeutic strategies.

AIM OF THE STUDY

The primary objective of my master's research is to shed light on previously unreported associations between the GRHL gene family and specific pathological conditions. To achieve this, comprehensive big data analyses were undertaken to delineate potential avenues for future research endeavors.

MATERIALS AND METHODS

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CONCLUSIONS

The study underscores the critical role of Grainyhead-like genes in vital biological processes, with alterations in their expression linked to various disorders. These findings emphasize the importance of further exploring GRHL genes' roles in health and disease, offering potential insights for future research and therapeutic strategies.

Title: Analysis of situations in which a court was asked to decide who should be given custody of a neonate.

Author(s): Dominika Strzalińska*, Julia Łada, Aleksandra Kamianowska

Tutor(s): Assoc. Prof. Monika Kamianowska

Affiliation(s):

Tutor(s) Affiliation(s): Department of Neonatology and Neonatal Intensive Care, Medical University of Bialystok, Poland

INTRODUCTION

Not every neonate can be discharged from a hospital with its mother. A mother can decide to relinquish parental rights. Also, if a serious risk of child neglect is suspected, a court has to decide who should be given custody of a neonate.

AIM OF THE STUDY

The aim was to analyze cases of neonates, who, according to the court's decision, were discharged from the Department of Neonatology and Neonatal Intensive Care of the Clinical University Hospital in Bialystok without their mothers.

MATERIALS AND METHODS

We analyzed court opinions and medical histories of 55 neonates hospitalized in the Department between 2019 and 2023. Attention was paid to the neonates' and parents' characteristics and reasons for the court's involvement.

CONCLUSIONS

In case of 55 neonates (0.52% of all children) the court was asked to decide who should be given custody of them after discharge from the Hospital. In 35 cases (63.64%), the Hospital sent a letter to the court due to a serious risk of child neglect. In 20 cases (36.36%), the letter was sent at the request of a mother in order to relinquish parental rights. The court was involved because of: difficult family situation (74.55%), mother's mental disorder (10.91%),

mother's addiction (7.27%), "blue card" procedure (5.45%), mother's disability (1.84%). The study group comprised 43 term neonates (78.18%), 7 late preterm neonates (12.73%) and 5 other preterm neonates (9.09%). 35 neonates (63.64%) were healthy, 15 were premature and had low birth weight (27.27%), 5 had congenital defects (9.09%).

The court was asked to decide who should be given custody of the neonate mainly due to a suspicion of a serious risk of child neglect. The mothers were mostly unemployed, and the fathers were unknown in over 1/3 of the cases. Most of the neonates were full-term and healthy. In accordance with the court's decision, most of the neonates were sent to foster families.

Dental Implants Knowledge Among Periodontitis Patients.

Author(s): Anna Węglarz,Patrycja Włodarczyk, Zuzanna Zapaśnik

Tutor(s): dr hab. n. med. Ewa Dolińska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Periodontal disease, prevalent among adults globally, impacts approximately 743 million individuals, resulting in tooth loss and diminished quality of life. Dental implants are increasingly utilized for restoring both chewing function and aesthetics. Hence, this study aimed to investigate the knowledge and understanding of dental implants among individuals with periodontitis. Anonymous questionnaires were collected from 100 patients of the Outpatient Clinic of the Department of Periodontal and Oral Mucosa Diseases of the Medical University in Bialystok from 16.02.2023 to 01.06.2023. The study group consisted of 66 females and 34 males aged 18 to 79. The survey explored patients' opinions on the importance of tooth replacement, their awareness and sources of knowledge about dental implants, as well as their understanding of the implantation process. To analyze the population, patients were divided according to gender, age, education and place of residence. The research was conducted in accordance with the Declaration of Helsinki and approved by the local bioethics committee (APK.002.111.2023). In the statistical analysis, the Chi-square test of independence was used to check the relationship between qualitative characteristics. Study population consisted of 100 participants mean age 49.81. Most of them lived in cities with over 50,000 inhabitants (62%), 20% in smaller cities and only 16% in the country. Only 2% of respondents had primary education, 41% secondary and 56% higher education. In the study group several dependencies were found (p<0.05). For instance, higher education was connected with greater perceived importance of tooth replacement. Patients already having dental implants mainly learned about implants from their dentists. The second most common source of knowledge was friends and family. Most respondents correctly identified implant insertion sites, but many were unsure about implant materials. Over half wanted to learn more about implants, simultaneously most were satisfied with their prosthetic restorations. Patients are familiar with dental implants, but their level of knowledge about them varies considerably. Participants demonstrate an interest in learning more about implants. Thus, there is an opportunity to provide educational interventions and fill knowledge

AIM OF THE STUDY

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MATERIALS AND METHODS

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CONCLUSIONS

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Title: Porcelain gallbladder: a rare condition requiring special attention

Author(s): Mateusz Malinowski, Aleksandra Lewczak

Tutor(s): Marta Lewoc-Magnuszewska, MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

A “porcelain” follicle is an uncommon condition that occurs when the walls of the follicle become saturated with calcium salts, giving it a porcelain-like appearance. It may be caused by chronic inflammation of the gallbladder, which results in gradual damage to the walls of this organ, metabolic disorders, malnutrition, changes related to aging of the body, or even viral infections. Diagnostics is based on imaging tests. Treatment depends on the degree of damage and symptoms. Although gallbladder calcification is thought to increase the risk of gallbladder cancer, recent reports have shown that the risk of malignancy is much lower than previously thought. In some cases, cholecystectomy should be performed, especially in symptomatic patients. The management of asymptomatic patients is controversial and should be carefully analyzed and planned, including the patient.

AIM OF THE STUDY

48-year-old man with a history of morbid obesity (BMI = 44.29kg/m2), hypertension, and alcohol dependence syndrome (AZS), hospitalized in the Department of Nephrology due to symptomatic anemia (Hgb 7.2g/dl). The patient reported weakness and periodic retrosternal and epigastric pain. Gastroscopy showed no significant abnormalities. The diagnostic imaging performed (abdominal ultrasound) revealed a dystrophic/porcelain gallbladder. After the laboratory parameters were equalized, the patient was referred to the Surgical Clinic, where he was qualified for surgical treatment. Laparoscopic cholecystectomy was performed. An atrophic gallbladder was found, covered with vesico-hepatic-duodenal adhesions, with a hard, thickened wall, filled with dense contents and deposits.

MATERIALS AND METHODS

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CONCLUSIONS

The follicle remains a clinical challenge due to its rarity. It is often diagnosed accidentally when tests are performed for another reason. Although it is most often asymptomatic, this condition cannot be ignored and requires close observation.

Title: Management of Maxillofacial Tumors in Gorlin-Goltz Syndrome: A Case Report

Author(s): Jeremi Matysek

Tutor(s): DR N. MED. KRZYSZTOF DOWGIERD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Nevoid basal cell carcinoma syndrome (NBCCS), an autosomal dominant genetic disorder, was first comprehensively defined by Gorlin and Goltz in 1960. It results from mutations in the PTCH1 gene located at locus 9q22.3. Symptoms typically emerge around age 20, but may manifest earlier, even in childhood. The initial phase is characterized by multiple basal cell carcinoma (BCC) outbreaks and subcutaneous cysts. Skeletal abnormalities, including rib fusion, duplication, and additional ribs, along with spinal defects like spina bifida, scoliosis, and kyphoscoliosis, are common. Keratinizing cysts in the jaw and mandible are a prominent feature, often leading to swelling, dull pain, and even oral fistulas. They can displace teeth and alter their mobility. Notable craniofacial changes, like frontal tumors, thick eyebrows, and a broad nose, further characterize NBCCS.

AIM OF THE STUDY

A 13-year-old patient was admitted for scheduled surgery due to a tumor located in the left maxilla. The patient's mother noticed facial asymmetry approximately 3 months prior, prompting a referral from the family physician to an otolaryngologist, who further referred the patient for a CT scan of the maxillofacial region. Clinical examination revealed various anomalies, including left-sided maxillary swelling, chest wall deformity, and facial dysmorphism.CT imaging revealed four well-defined osteolytic lesions within the maxillary and mandibular bones. The lesions caused significant thinning of the cortical bone with scalloping and exerted mass effect on adjacent structures, leading to nasal cavity obstruction, calcifications were observed in the falx cerebri and cerebellar tentorium. During the surgical procedure, the tumor was excised from the left maxilla, right maxilla, mandibular body near the chin, and left mandibular angle areas. The patient was diagnosed with Gorlin-Goltz syndrome.

MATERIALS AND METHODS

case report

CONCLUSIONS

This case underscores the importance of preventive measures in the management of young patients with Gorlin-Goltz syndrome and maxillofacial tumors. Surgical intervention played a crucial role in alleviating symptoms and averting potential complications. Long-term vigilance is essential to detect any signs of recurrence and ensure optimal outcomes, emphasizing the significance of preventive care in promoting the patient's craniofacial development and overall health.

Title: First use of Ondexxya in management of massive delayed hemothorax.

Author(s): Antkiewicz J, Choroszewska A, Czołpiński K, Mirosław Kozłowski

Tutor(s): dr hab. n. med. Mirosław Kozłowski

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Blunt chest injuries often result in rib fractures, which can lead to massive delayed hemothoraces, posing a threat to health and life and thus requiring urgent intervention, including reversal of anticoagulants such as Xarelto using fast-acting agents like Ondexxya. We describe the case of a 75-year-old female patient with a massive delayed hemothorax resulting from a chest injury after a fall from a low height. The patient was chronically taking Xarelto (Rivaroxaban), which is one of the direct oral anticoagulant inhibitors (DOAC) due to coexisting diseases. Ondexxya was administered to reverse the effects of the medication. This case is exceptional as it marks the first instance of this medication being used in a patient with a massive hemothorax directly threatening life. Based on the case description, we conclude that Ondexxya can be safely used to reverse the effects of Rivaroxaban in situations of life-threatening massive delayed hemothorax.

Blunt chest injuries often result in rib fractures, particularly in older individuals. Rib fractures commonly lead to hemothorax, but a rare variant is delayed hemothorax in the pleural cavity as defined by Hamamoto et al. as hemothorax appearing 2 hours after injury and no signs of bleeding observed on initial imaging studies. These are particularly life-threatening as they are associated with high mortality. Hence, they necessitate prompt action, especially in patients chronically taking direct oral anticoagulants (DOACs), with reversal of their effects achievable through Ondexxya, used in severe life-threatening hemorrhages. We report the case of a patient under chronic Xarelto (Rivaroxaban) treatment, who developed a delayed, massive hemothorax following a fall from low height, and Ondexxya was employed during treatment.

AIM OF THE STUDY

The aim of the case study is to present a practical use of Ondexxya in reversal of Rivaroxaban in a patient with massive delayed hemothorax.

MATERIALS AND METHODS

Case study does not contain this part of the publication.

A 75-year-old woman with a history of chronic illnesses: chronic heart failure, persistent atrial fibrillation, Hashimoto's disease, atherosclerosis, and having undergone hip joint endoprosthesis surgery. She was chronically taking Xarelto 20 mg once daily. She fell from her own height at home and presented to the Emergency Department, where a computer tomography scan revealed rib fractures from VII to X without extravasation and lung contusions with free pleural spaces. The patient was discharged home. A week after the fall, her condition deteriorated. Emergency medical services were called, finding her difficult to communicate with, experiencing shortness of breath and having a saturation of 60%. (Not enough space).

CONCLUSIONS

In summary, the introduction of Ondexxya has enabled the effective reversal of the effects of commonly used new anticoagulant medications, which was previously not feasible in an efficient manner.

Title: Sacral Neuromodulation in a Patient with Multiple Sclerosis - Case Report

Author(s): Mateusz Mucha

Tutor(s): Tomasz Piecha MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Multiple sclerosis is an autoimmune disease of unknown aetiology in which the myelin sheath of the nerves of the brain and the spinal cord are damaged, resulting in disturbance of nerve signalling. It is one of the most common immune-related disorders, with 2.8 million people suffering from it in 2020, and is twice more common in women than men. Lubin classification distinguishes four phenotypes of multiple sclerosis, depending on the course of the disease. Primarily progressing type is characterized by steady increase in disability without attacks. There are many diverse symptoms related to the demyelination, some of which affect the urinary system, like urgency, incontinence, difficulty in initiating micturition and more. Sacral neuromodulation is one of the ways of treating these symptoms. It involves extradural electrode implantation in S3 foramen with S3 nerve root, which contains sensory and parasympathetic neural fibres.

AIM OF THE STUDY

To show the result of implanting a sacral neuromodulation implant and its possible complications.

MATERIALS AND METHODS

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CONCLUSIONS

Neuromodulation is a cost-effective treatment for bladder symptoms in patients with multiple sclerosis, although many complications may arise. The literature about its use in neurogenic population is scarce and more prospective studies need to be done.

Title: A rare case of portomesenteric vein thrombosis after laparoscopic sleeve gastrectomy.

Author(s): Dominika Mysiorska, Michał Rydzewski

Tutor(s): Natalia Dowgiałło-Gornowicz MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Bariatric surgery has already proved to be effective in losing weight and managing obesity-related comorbidities. Although it provides favorable results, it also has a low risk of inherent complications. Among the rare complications, we find leakage, internal hernia, intestinal small bowel obstruction, deep vein thrombosis, pulmonary embolism, or portomesenteric vein thrombosis (PMVT). PMVT is uncommon (with incidence from 0.07 to 1%) but potentially life-threatening complication. Risk factors include obesity itself, as well as genetic conditions and medications taken.

AIM OF THE STUDY

A 29-year-old woman with obesity (BMI 43.87 kg/m2) on 08.03.2024 underwent laparoscopic sleeve gastrectomy (LSG). 26.03.2024 she was admitted to the department due to diarrhea accompanied by epigastrium pain in the right hypochondrium and midepigastrium, appearing especially after eating. Those symptoms lasted 5 days before admission. Moreover, the patient past medical history includes hypertension treated with indapamide and perindopril and two-component oral contraceptive. Physical examination revealed a soft abdomen, and pain in the midepigastrum on deep palpation, without peritoneal symptoms. Laboratory tests showed leukocytosis, elevated platelet count, and significantly elevated CRP. Due to ambiguous symptoms and elevated inflammatory parameters, CT was performed which revealed a massive saddle thrombus involving the superior mesenteric vein and the portal vein. Moreover, it showed small edematous consolidations in the fat surrounding the superior mesenteric vessels. The patient was started on therapeutic doses of low molecular weight heparin and a liquid diet. Over the following days, the symptoms significantly reduced, and the patient was discharged home on an oral diet while maintaining the recommendations.

MATERIALS AND METHODS

CONCLUSIONS

To achieve good results and avoid complications such as PMVT, before bariatric surgery coexisting factors of the patient should be considered such as obesity, contraceptive use, and drinking water after surgery. As PMVT is a rare but potentially morbid complication of LSG, screening of the underlying thrombogenic state should be considered before proceeding with LSG to not miss or delay the diagnosis of PMVT.

Title: Innovative use of a combination of flap techniques in the treatment of tissue defects following squamous cell carcinoma

Author(s): Piotr Panek

Tutor(s): dr. n. med. Michał Lis

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The standard approach to treating squamous cell carcinoma (SCC) situated in the skin of nose and cheek typically involves surgical intervention, which can occasionally result in tissue loss. In plastic surgery, various techniques using different types of skin grafts and flaps are commonly employed to cover tissue defects caused by such procedures. This case report highlights the reconstructive treatment of a patient afflicted with advanced SCC affecting the nose and cheek regions, demonstrating the application of multiple flap techniques in their treatment.

AIM OF THE STUDY

In December 2023, an 80-year-old woman was admitted to the Plastic Surgery Department (PSD) in Krakow due to a sizable nose squamous cell carcinoma (SCC). The removal procedure proceeded smoothly without any issues. To address the resulting tissue defect, a split-thickness skin graft (STSG) was utilized. Approximately a month later, she underwent a subsequent operation involving the prefabrication of a paramedian forehead flap (PFF) and wound debridement. Following this, she required urgent admission to the PSD due to earlobe inflammation resulting from cartilage extraction for the PFF. During hospitalization, the initial stage of reconstruction was performed, involving the transfer of the prefabricated PFF to the nose, utilization of a mustard flap to cover the cheek, and securing the forehead wound with STSG. This operation also proceeded without complications. Five weeks later, she returned to the PSD for the second stage of reconstruction, which involved the detachment of the PFF stalk and local plastic surgery on the nose wings and columella. Presently, the patient is taken care of by the outpatient clinic.

MATERIALS AND METHODS

CONCLUSIONS

The case described demonstrates an innovative approach by combining various surgical techniques to manage extensive tissue defects. The patient advanced cancer stage emphasizes the significance of early detection, potentially reducing the necessity for complex surgeries and associated risks. Additionally, this case underscores the importance of educating patients about the severity of their condition and the need for timely medical attention to prevent adverse outcomes.

Title: Rare case of a woman with papillary thyroid carcinoma (PTC), follicular tumor of uncertain malignant potential (FTUMP) and nodular goiter

Author(s): Natalia Świsłocka

Tutor(s): MD PhD Piotr Bernaczyk

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Thyroid neoplasms are common, mostly benign lesions that appear mainly among women. Papillary thyroid carcinoma (PTC) is the most common type of thyroid cancer, and usually manifests as a painless mass inside thyroid gland diagnosed in ultrasound. Preoperative diagnosis is usually established based on material obtained by fine-needle aspiration biopsy (FNA). In smears taken during FNA characteristic cytological features such as pseudo-inclusions and nuclear grooves, sometimes forming pseudo-papillary structures are observed. Prognosis in PTC is favorable (ten-year survival rate up to 95%). Follicular tumor of uncertain malignant potential (FTUMP) is encapsulated/well circumscribed rare tumor composed of well-differentiated follicular cells, presents questionable invasion. Treatment of choice in above cases is resection.

AIM OF THE STUDY

A 52-year-old woman was referred for thyroid ultrasound after reporting enlarged gland to her general practitioner. USG showed unsymmetric, enlarged hypoechogenic gland with a heterogeneous structure, numerous focal lesions. Fine-needle aspiration biopsy was performed. Diagnosis in left lobe/isthmus was Bethesda V/VI suspicion of malignancy (papillary thyroid carcinoma).

MATERIALS AND METHODS

In left lobe was Bethesda IV/VI suspicion of follicular neoplasm (oxyphilic tumor) and due to single cells with salt and pepper chromatin nuclear features Bethesda V/VI suspicion of malignant neoplasm (medullary carcinoma) were diagnosed. Serum calcitonin level was lowered. Total strumectomy was planned.

CONCLUSIONS

Fine-needle aspiration cytopathology is an excellent diagnostic method when it comes to papillary cancers, but in follicular tumors it may cause discrepancies. Important in differential diagnosis are cells' origin and characteristics of its nuclei. However, histopathological examination (sometimes supported by immunohistochemistry or genetics) is still irreplaceable and definitive, allowing an appropriate diagnosis to be made. Changes in course of surgery and complications are part of risk that must be considered when performing medical procedures.

Title: Total talus replacement and total ankle arthroplasty after ankle, talonavicular joint arthrosis and aseptic necrosis of the talus. A case report.

Author(s): Milda Sondaitė, Gintarė Tamulionytė

Tutor(s): MD Vytautas Kimtys

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Avascular necrosis (AVN) of the talus presents challenges in treatment. Factors such as patient functional status and other health conditions need to be taken into account. In the past, the standard approach for treating talar AVN focused on arthrodesis surgeries, which could limit movement in the ankle joints. Total talus replacement is a potential solution to alleviate pain and maintain motion range. The emergence of 3D-printed talar implants provide opportunity to preserve ankle joint mobility. Total talus replacement surgery is a procedure that involves the complete replacement of the talus bone in the ankle joint.The surgery aims to restore the stability and functionality of the ankle joint, enabling patients to resume normal activities and alleviate discomfort associated with ankle joint disorders.

AIM OF THE STUDY

A 43-year-old patient complained of persistent left ankle pain for several years. Conservative treatment was ineffective. Range of motion for the left ankle joint was 10°/0°/25°. CT scan showed aseptic necrosis of the talus, involving the entire talus. Grade II-III osteoarthritis of the ankle joint and grade IV arthrosis of the talonavicular joint was also present. Calcaneonavicular fibrous coalition was also detected. The ankle joint arthroplastic surgery, with the talus being replaced by an individual implant was set. During the operation, anterior ankle joint arthrotomy was performed, the distal end of the fibula was prepared according to templates, the talus was removed, a special endoprosthesis and tibial components were implanted. The talus component was fixed with a screw through the heel bone. A spacer was inserted. The Achilles tendon was lengthened using the Hooke method. Osteosynthesis was performed to increase medial malleolar stability using two 4.0 mm cancellous screws. The ankle was immobilized in a plaster cast post-operation. Antibiotics and anticoagulants were prescribed postoperatively. No complications were observed post surgery. It was recommended to wear a special orthopedic brace for the ankle for 10 weeks. Weight-bearing begin 6 weeks after the surgery, rehabilitation was prescribed after 8 weeks. After a year, the surgical wound healed, ankle range of motion was 15°/0°/25°, stability was sufficient, and the subtalar and talonavicular joints were immobile. X-ray examination showed good positioning of the ankle endoprosthesis, with bony fusion between the calcaneus, talus, and navicular bones.

MATERIALS AND METHODS

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CONCLUSIONS

Total talus replacement surgery emerges a promising results to ankle joint function increase and pain allevation, presenting an alternative to ankle arthrodesis. This surgical method has

shown potential in restoring the functionality of the ankle joint post injury or degenerative conditions.

Title: Acetabular fracture with central dislocation. Case report.

Author(s): Martyna Tamulionytė, Gintarė Tamulionytė

Tutor(s): MD Deimantas Masaitis, MD Giedrius Pilipavičius

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Acetabular injuries, linked with traumatic hip dislocation are uncommon, with an estimated occurrence of around 3 per 100,000 cases annually. These injuries demand immediate reduction and surgical intervention to regain joint stability and alignment of the joint surface. The surgical procedure involves open surgery to align the fractured acetabulum and secure it using screws, plates, or other fixation devices. The modified Stoppa approach for acetabular medial wall fractures coupled with central hip dislocation has been found to have lower complication rate and improved functional results. The use of standard plates and screws for stabilizing the fractured acetabulum is a common practice in open reduction and internal fixation. This method enables precise fixation of the fracture segments and restoration of the acetabular structure. Buttress plating, on the other hand, employs specialized contoured plates designed to match the acetabulum shape, offering added support and stability.

AIM OF THE STUDY

A 62-year-old male was brought to the emergency department due to polytrauma after accidental fall. Movements through the right hip joint were restricted, painful and leg was shortened. An x-ray revealed a comminuted fracture of the right acetabulum with central hip dislocation. Skeletal traction was used to gradually reduce right hip dislocation prior to definitive fixation. A week later, a hip osteosynthesis was performed. A Stoppa incision was made at the pubic symphysis and the wing of the ilium. Dissecting tissues subperiosteally to the edge of the quadrilateral plate, the instruments aided in reducing the pelvic bones and fixation with an unlockable pelvic plate and screws to restore stability to the pelvic ring. An unlocking acetabular buttress plate with screws was also used to restore the central dislocation by fixing the quadrilateral plate. The postoperative course was uneventful, with no neurovascular pathology observed. Antibiotic therapy and anticoagulants were administered. Three days post-op, no fragment dislocations were observed on x-ray, component position was good. The patient was allowed to bear weight with a 20kg force the next day with right leg. Full function was restored within 2 months.

MATERIALS AND METHODS

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CONCLUSIONS

After a hip fracture with central dislocation, it is necessary to promptly apply skeletal traction and perform open reduction and internal fixation to restore pelvic ring stability and central dislocation, as such a fracture is a life-threatening condition.

Title: Could this have been predicted? – A case report of a 65-year-old patient after angioplasty with stent implantation.

Author(s): Natalia Wolak, Michalina Figiel

Tutor(s): Dr. med. Piotr Malinowski

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Atherosclerosis is an arterial disease leading to the narrowing of the lumen. The cause of narrowing is atherosclerotic plaque mainly composed of cholesterol, which grows from the artery wall, leading to reduced blood flow. Atherosclerosis of the iliac artery can manifest as intermittent claudication, rest pain, and sometimes ischemic necrosis. Currently, there are many surgical and endovascular treatment methods available. Endovascular treatment methods include percutaneous transluminal angioplasty (PTA).

AIM OF THE STUDY

A 65-year-old man was admitted to the Department of Vascular Surgery due to rest pain in the right foot secondary to occlusion of the right external iliac artery, for endovascular treatment. In the medical history: revascularization of the left internal carotid artery, hypertension, implanted pacemaker. On February 8, 2023, angioplasty of the right external iliac artery with stent implantation was performed. Control arteriography showed normal blood flow and no bleeding. Shortly after the procedure, the patient experienced abdominal pain in the right iliac fossa and hypotension. The patient was urgently scheduled for a repeat procedure. Rupture of the right external iliac artery was confirmed after contrast injection with active bleeding. A covered stent was introduced, achieving closure of the leak site. The patient general condition after the procedure was fair. On the second day, acute kidney injury occurred. On the fourth day, the patient condition worsened, with symptoms of respiratory failure due to pneumonia. The patient was intubated and transferred to the intensive care unit for further treatment. After 33 days, the patient was referred for further outpatient treatment. A 65-year-old man was admitted to the Department of Vascular Surgery due to rest pain in the right foot secondary to occlusion of the right external iliac artery, for endovascular treatment. In the medical history: revascularization of the left internal carotid artery, hypertension, implanted pacemaker. On February 8, 2023, angioplasty of the right external iliac artery with stent implantation was performed. Control arteriography showed normal blood flow and no bleeding. Shortly after the procedure, the patient experienced abdominal pain in the right iliac fossa and hypotension. The patient was urgently scheduled for a repeat procedure. Rupture of the right external iliac artery was confirmed after contrast injection with active bleeding. A covered stent was introduced, achieving closure of the leak site. The patient general condition after the procedure was fair. On the second day, acute kidney injury occurred. On the fourth day, the patient condition worsened, with symptoms of respiratory failure due to pneumonia. The patient was intubated and transferred to the intensive care unit for further treatment. After 33 days, the patient was referred for further outpatient treatment.

MATERIALS AND METHODS

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CONCLUSIONS

Despite the minimally invasive nature of the iliac artery angioplasty, complications may occur, often requiring reoperation. The presence of chronic diseases and occlusion of other vessels may predispose to complications.

Title: An unusual case of optic nerve schwannoma in a young patient

Author(s): Patrycja Niczyporuk, Aleksandra Giba, Kacper Prokop, Magdalena Rybaczek, Izabela Zajkowska

Tutor(s): Magdalena Rybaczek MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Schwannoma is a benign neoplasm originating from Schwann cells. It is most often localized in the region of the cerebellopontine angle- the vestibulospinal nerve. It originates in the peripheral nerve sheaths, cranial or spinal nerve roots.

AIM OF THE STUDY

This description presents a rare case of optic neuroma in a 28-year-old patient. The patient had reported deterioration of vision in the left eye for about 1.5 years, at which time optic neuritis was diagnosed and treated with steroids. MR examination revealed a small tumor of about 6 mm located in the top of the left orbit, in direct contact with the optic nerve, at the level of the Zihn ring. Due to his deteriorating vision and general condition, the patient was scheduled for surgery using the endoscopic technique from a transnasal, transorbital access. During the procedure, the optic nerve was exposed in its bony canal and at the top of the orbit. No evident tumor masses were found internally, but material adjacent to the sheath of the II nerve was taken. Postoperative MR imaging showed no obvious reduction of the tumor mass. As a result of the surgery, vision deteriorated subjectively. It was decided to revise the surgical field earlier for fear of scarring that would hinder later identification of the orbital apex structures. Surgical exploration was expanded and the material was again collected for histopathological examination. The histopathological examination diagnosed optic nerve sheath schwannoma.

MATERIALS AND METHODS

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CONCLUSIONS

Optic nerve sheath schwannoma pose a major surgical challenge due to their histopathologically derived close association with the nerve and difficult to access location. The case of the presented patient is unique due to the location of the lesion and the use of endoscopic surgery in a multidisciplinary team. The rare occurrence makes orbital schwannoma sporadically considered in the differential diagnosis, although several cases of optic nerve sheath schwannoma have already been described.

Title: Successful management of giant ovarian granulosa cell tumour and pheochromocytoma – a case report.

Author(s): Adam Surma, Dominik Sokalski

Tutor(s): Alicja Szatko MD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pheochromocytoma (PCC) is a rare neuroendocrine neoplasm of the adrenal medulla, with the prevalence of 64 per million inhabitants. PCC derives from chromaffin cells, which have an ability to produce, metabolize and secrete into blood catecholamines and their metabolites. Ovarian adult-type granulosa cell tumour (AGCT) is a rare (accounting for up to 5% of ovarian malignancies) sex cord-stromal tumour that arises from granulosa cells (GC). GC secrete oestrogens, but in rare cases also androgens.

AIM OF THE STUDY

MATERIALS AND METHODS

CONCLUSIONS

Title: The effect of liraglutide on insulin sensitivity, substrate oxidation and non-oxidative glucose metabolism in overweight or obese individuals

Author(s): D. Szczepańska,A. Kołakowski,K. Wojda,M. Dobrzycka

Tutor(s): prof. Monika Karczewska-Kupczewska, Dr Agnieszka Nikołajuk, Prof. Irina Kowalska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Obesity is the plague of our times. The excess body fat leads to insulin resistance (IR) in skeletal muscle, which is associated with decreased muscle glucose uptake, glycogen synthesis and fatty acid oxidation. Published studies report that liraglutide promotes weight loss and improves surrogate indexes of IR. However, there is no data regarding the improvement of insulin sensitivity (IS) measured by a direct method, "gold standard": hyperinsulinemic euglycemic clamp (HEC) after liraglutide treatment. Furthermore, it is unclear if the influence of liraglutide on insulin action is mediated by changes in resting energy expenditure (REE), oxidative and non-oxidative glucose and lipid metabolism.

AIM OF THE STUDY

The aim of the study was the assessment of effectiveness of liraglutide treatment on clamp IS, REE, whole-body glucose and lipid oxidation and non-oxidative glucose metabolism (NOGM) in overweight/obese, non-diabetic patients.

MATERIALS AND METHODS

In a 12-week study intervention, 23 overweight/obese volunteers (BMI ≥ 28 kg/m2) with or without prediabetes were randomized to treatment liraglutide added to low-calorie diet (n=12) or low-calorie diet only (n=11). Anthropometric measurements and body composition analysis with bioelectrical impedance (BIA) were performed in all subjects. IS was assessed using HEC, while REE and the rates of whole-body glucose and lipid oxidation were measured with indirect calorimetry.

CONCLUSIONS

Liraglutide improves IS measured by HEC and its effect on IS might be mediated by the increase in NOGM in insulin-stimulated conditions.

Title: Botulinum toxin in urology - the treatment of lower urinary tract symptoms associated with benign prostatic hyperplasia.

Author(s): Góralczyk, Hawranik, Głuchowska, Koszałka

Tutor(s): Przemysław Mitura MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Botulinum toxin is a neurotoxin, which used in limited quantities can be applied in various diseases. Over recent years, interest in the use of botulinum toxin in urology has also increased significantly. In urological cases, its mechanism of action relies on inhibiting the detrusor muscle contraction by blocking the release of acetylcholine at the neuromuscular junction. In the detrusor muscle it also inhibits release of ATP purinergic efferent nerves. In afferent nerves, there is a reduction of urothelial ATP release and increase of secretion of NO from urothelium.

AIM OF THE STUDY

The aim of the study is to assess the efficacy and safety of botulinum toxin injections, specifically intradetrusor injections, in the treatment of lower urinary tract symptoms associated with benign prostatic hyperplasia (BPH).

MATERIALS AND METHODS

We have synthesized and analyzed data available at PubMed library and European Association of Urology Guidelines, refining the search by choosing 159 papers specifying use of botulinum toxin in patients with lower urinary tract symptoms connected with BPH, describing usefulness and indications of the intradetrusor injection and intraprostatic injection of botulinum toxin in above cases.

CONCLUSIONS

Botulinum toxin has a large number of medical applications. It can be used as a treatment in lower urinary tract symptoms associated with BPH. The intradetrusor injections are recommended as an alternative medication in such cases. Meanwhile, more evidence of clinical impact of use of intraprostatic injections of botulinum toxin in the short-term therapy of lower urinary tract symptoms is needed.

Title: Beyond Expectations - A 21 cm Discovery in Upper Gastrointestinal Bleeding Management. A Case Report.

Author(s): Zuzanna Ostrowicz

Tutor(s): M.D. Anna Woś-Zaniewska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) is a common clinical presentation encountered in gastroenterology practice, often necessitating prompt intervention to mitigate potential complications. While the etiology of UGIB varies widely, its management follows established protocols aimed at achieving hemostasis and ensuring patient stability. However, unexpected findings may arise, challenging conventional assumptions and requiring careful consideration. In this particular case, I present the UGIB management scheme, which was disrupted by the incidental discovery of a 21 cm lesion suspicious for malignancy.

AIM OF THE STUDY

In December 2023, a 76-year-old man was admitted to the Gastroenterology Department in Olsztyn due to symptoms of upper gastrointestinal bleeding. The patient reported vomiting with coffee ground-like content, passing tarry stools and fainting. Laboratory tests revealed severe normocytic anemia (hemoglobin 8.3 g/dl), leukocytosis, and azotemia. Upper endoscopy revealed significant swelling of the duodenal bulb and a large ulcer, currently classified as Forrest III ulcer bleeding. The patient was qualified to parenteral nutrition and received a total of 8 units of packed red blood cells. During hospitalization, the patient underwent extensive diagnostic procedures, including chest and abdominal CT scans. The imaging showed a very large mass measuring 21cm x 15cm x 3.5cm located supra-diaphragmatically. The mass caused the left hemi-diaphragm to be positioned 11 cm higher than the right side. Additionally, it molded the distal esophagus and the segmental fundus of the stomach, likely indicating malignant infiltration. Due to the size of the mass and atypical location, the patient was referred to the thoracic surgery department for further diagnostic evaluation.

MATERIALS AND METHODS

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CONCLUSIONS

This case underscores the importance of vigilance and adaptability in the management of gastrointestinal bleeding, highlighting that clinical scenarios may not always unfold as expected.

Title: Impact of Smoking on Nitrosative Stress in Young Adults: A Comparative Analysis between Traditional Cigarettes, E-Cigarettes, and Heat-Not-Burn Products

Author(s): Virginia Ewa Lis, Sara Zięba, Alicja Skutnik,

Tutor(s): Medical Doctor Anna Skutnik - Radziszewska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Cigarette smoke contains over 5000 harmful substances, including free radicals and other oxidants affecting the redox balance. As a result of increased concentrations of reactive nitrogen species, there is a disturbance in this balance, leading to nitrosative stress. Nitrosative stress results in damage to cellular components. To assess these damages, products of oxidation, glycation, and nitration are used, including 3-nitrotyrosine (3-NT).

AIM OF THE STUDY

The aim of the study was to investigate the impact of smoking traditional cigarettes, e-cigarettes, and heat-not-burn products on the concentration of nitric oxide (NO) and (3-NT) in unstimulated saliva (NWS) of healthy young adults with a smoking habit of up to 3 years.

MATERIALS AND METHODS

The study obtained approval from the Bioethics Committee (APK.002.343.2020). The study involved 3 test groups, each consisting of 25 smokers, as well as a control group matched for age, gender, and oral cavity status to the test groups. The research material consisted of unstimulated saliva (NWS) obtained using the spitting method. Saliva was centrifuged for 20 minutes, then the fluid above the sediment was collected, frozen and stored until analysis, but no longer than 4 months. Concentration o

CONCLUSIONS

Smoking various types of tobacco products significantly increases the concentration of NO and 3-NT in the NWS of healthy young adults smoking for up to 3 years compared to the control group. These results demonstrate the negative impact of smoking on the redox balance and oral cavity condition. In the initial period of addiction, we observe nitrosative stress, which may lead to cell damage and the development of diseases within the oral cavity structures.

Title: Acute myeloid leukemia type differentiation: immunotyping and blood parameters – a case report

Author(s): Salem Hamdan 1, Julia Foremniak 1, Maja Rosiak 1

Tutor(s): Mgr Milena Małecka-Giełdowska 2,3

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Acute promyeloid leukemia (APL or AML M3) is a subtype of acute myeloid leukemia. It is characterized by abnormal accumulation of promyelocytes in blood and bone marrow. PML is usually accompanied by anemia, thrombocytopenia, leukocytosis or leukopenia. Immunophenotyping shows high expression of CD13, CD33, CD64, CD117 and no expression of HLA-DR, CD11b, CD11c, CD14 and CD3. Acute myelomonocytic leukemia (AMML or AML M4) is classified by WHO as "AML not otherwise specified". It is diagnosed when the populations of myeloblasts and monoblasts both exceeds 20% of WBC in bone marrow. Cells of monocytic line are HLADR+, CD33+, CD36+.

AIM OF THE STUDY

MATERIALS AND METHODS

CONCLUSIONS

Title: Management of postoperative hypopituitarism: a case report

Author(s): Marijonas Zukas

Tutor(s): Assoc. prof. Lina Zabuliene, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pituitary adenomas are the most common benign cerebral tumors (up to 25% of all cerebral tumors). The estimated yearly incidence is ~5,1 / 100 000 and the estimated lifetime prevalence is ~1 / 1000. If the adenoma reaches 1cm or larger in size (referred to then as a macroadenoma), it may compress surrounding structures; this may lead to hypopituitarism and visual defects. In some cases, if the tumor is not excised properly, it may recur; consequently, the patient must be monitored and treated accordingly.

AIM OF THE STUDY

To present the management of a patient with postoperative hypopituitarism.

MATERIALS AND METHODS

The case report was written using anonymous medical data.

CONCLUSIONS

A pituitary adenoma and its surgical excision may cause hypopituitarism and visual defects. Substitutional hormonal therapy, as well as cooperation between endocrinology, ophthalmology and neurosurgery to monitor and treat the patient accordingly are required.

Title: Extremely Rare Cause of Apnea - Arteria Lusoria and a Goitre, Case Report

Author(s): Mateusz Mucha

Tutor(s): Joanna Skowrońska-Szcześniak MD PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Arteria lusoria is a rare anatomical variant, in which the right subclavian artery branches directly from the aortic arch, and is present in approximately 1.3% of people. It goes to the right part of the trunk by crossing the midline, generally between the trachea and the esophagus or behind these structures. Usually it is found incidentally in CT scans and does not cause any symptoms, although it might produce dysphagia, dyspnoea and cough. Treatment options include surgery and endovascular management.

AIM OF THE STUDY

To show potential complications related to arteria lusoria and/or a goitre.

MATERIALS AND METHODS

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CONCLUSIONS

Arteria lusoria is not a common finding, however it can manifest as dysphagia, dyspnoea and more due to compression of the surrounding structures like the esophagus and the trachea. In this case, we showed a patient in whom the course of the disease took a dramatic turn. It shows that arteria lusoria should be taken under consideration when other causes of dysphagia and/or dyspnoea have been excluded.

Title: The Role of Nitro-Oxidative Stress, Endoplasmic Reticulum Stress and Unfolded Protein Response in Post-Myocardial Infarction Heart Failure and High-Fat Diet

Author(s): Kamil Krauz, Karol Momot, Jakub Tomaszewski

Tutor(s): Katarzyna Czarzasta, PhD; Małgorzata Wojciechowska, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Myocardial infarction (MI) may lead to the pathological cardiac remodeling and the development of heart failure (HF). High-fat diet (HFD) may contribute to these adverse changes. Nitro-oxidative stress, endoplasmic reticulum (ER) stress, and inflammation play significant roles in HF pathogenesis. However, the role of these mechanisms in post-MI HF with simultaneous excessive fat intake has not been fully established.

AIM OF THE STUDY

The aim of this study was to assess the impact of the post-MI HF and a HFD on nitro-oxidative stress, ER stress and unfolded protein response (UPR).

MATERIALS AND METHODS

The study was conducted on 36 male SD rats, which were fed either a normal-fat diet (NFD) or a HFD from 4 weeks of age. 12-week-old rats underwent left coronary artery ligation (NFD-HF, HFD-HF) or sham operation (NFD-SO, HFD-SO). 4 weeks after the surgery tissues were collected for analysis. Serum NT-proBNP concentration was measured using ELISA test, and levels of 3-NT, MPO, eNOS, nNOS, iNOS, GRP78, CHOP, PERK, IRE-1a, and p-IRE1a in the left ventricle were quantified using Western Blot method.

CONCLUSIONS

Nitro-oxidative stress and inflammation may be involved in cardiac remodeling in post-MI HF. HFD may contribute to the induction of nitro-oxidative stress and the development of ER stress. Furthermore, post-MI HF and HFD may be associated with impaired UPR.

Title: Extracellular vesicles derived from mesenchymal stem cells reflect the therapeutic effect of whole cells on the regulation of neutrophilic airway inflammation in an experimental model of asthma.

Author(s): B Hanczaruk, Tynecka, Janucik, Tarasik, Moniuszko

Tutor(s): Andrzej Eljaszewicz

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Mesenchymal stem cells (MSCs) have been frequently tested in preclinical models and clinical trials of chronic inflammatory diseases, including asthma. Unfortunately, numerous research efforts confirming their efficacy in inflammation regulation have not yet allowed the registration of MSC-based therapies and their broad clinical usage. The safety of MSC transplants remains one of the major concerns.

AIM OF THE STUDY

Thus, to minimize safety issues, we aimed to evaluate MSC-derived extracellular vehicles (EVs) as an effective alternative to treat lung inflammatory diseases.

MATERIALS AND METHODS

To induce neutrophilic airway inflammation, C57BL/6 mice were challenged (i.n) with the house dust mite (HDM) extract for 5 consecutive days in each of the two weeks of the model. Additionally, on the 13th day of the experiment, mice were administered with EVs isolated from the standard MSC culture media or media collected from MSCs primed with a mixture of proinflammatory cytokines (pr-EVs). All mice were sacrificed within 72 hours since the last HDM extract challenge.

CONCLUSIONS

Our results confirmed that the EVs products may reflect the beneficial effects of originating cells, while pr-EVs shows advantages over their unprimed counterpart.

Title: The vasoprotective effects of empagliflozin in spontaneously hypertensive rats. The preliminary study.

Author(s): Sandra Budziak

Tutor(s): Anna Krzyżewska, MSc; Hanna Kozłowska, Prof; Marta Baranowska-Kuczko, PhD; Barbara Malinowska, Prof; Monika Kloza, PhD

Affiliation(s): Departament of Experimantal Physiology and Patophysiology, Medical University of Bialystok

Tutor(s) Affiliation(s):

INTRODUCTION

Empagliflozin is a sodium-glucose cotransporter 2 (SGLT-2) inhibitor, increases urinary glucose secretion, resulting in cardio-renal protective effects and therefore in reducing death from cardiovascular causes. Endothelial dysfunction plays a vital role in the development of hypertension. Empagliflozin improves endothelial function by reducing the level of contractile factors, causing vasodilation, reducing vascular stiffness and by exerting antioxidative and anti-inflammatory effect. However, nobody has shown yet if empagliflozin regulated the vasomotor tone under hypertensive condition.

AIM OF THE STUDY

The aim of this study was to evaluate the impact of empagliflozin on vasodilatory endothelium-dependent effect mediated by acetylcholine (a cholinergic receptors agonist) and contractile effect induced by U46619 (a thromboxane A2 analogue) in the isolated resistance arteries of spontaneously hypertensive rats (SHR).

MATERIALS AND METHODS

Functional studies were performed on the isolated third branch of the mesenteric artery (G3) isolated from male SHR and normotensive Wistar Kyoto Rats (WKY) by using wire myography technique. To investigate influence of SGLT2 inhibitor, G3 were 30 min pre-incubated with empagliflozin (10 μM) and then concentration-response curves (CRCs) to acetylcholine (0.001-30 μM) and U46619 (0.001-10 μM) were performed. The results were shown as a percentage of relaxation of the isometric contraction induced by phenylephrine (10 μM) and the reference contraction response to KCl (60 mM). The expression level of SGLT-2 was assessed through the Western Blot method. Statistical analysis was performed using Student's t-test for unpaired data.

CONCLUSIONS

The outcome of that research shows that empagliflozin possessed the vasoprotective effects in hypertension due to modifying the vascular tone, i.e. improvement of endothelium-dependent relaxation and attenuation the vasoconstriction induced by U46619 in the small mesenteric arteries of SHR.

Title: An analysis of glucocorticoid receptor β level in the brainstem during postnatal development in the rat model of an attention-deficit hyperactivity disorder

Author(s): Klaudia Juraszek, Natalia Pęciak

Tutor(s): dr hab. n. med. Anna Kozłowska, prof. UWM

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Attention-deficit hyperactivity disorder (ADHD) is a psychiatric disorder characterized by symptoms of inattention, hyperactivity, and impulsivity. This is a neurobehavioral disorder characteristic of childhood. While the neurobiological and genetic underpinnings of the disorder are beyond dispute, biomarkers or other objective criteria, which could lead to the reliable identification of ADHD in an individual within clinical practice, are still lacking. Moreover, the signs and symptoms of ADHD differ across childhood, adolescence, and adulthood.

AIM OF THE STUDY

The purpose of this study was to analyze the glucocorticoid receptor β (GRβ) level in the brainstem during postnatal development in the spontaneously hypertensive rats (SHRs) - an animal model for ADHD and Wistar Kyoto rats (WKYs) used in the present study as a control group.

MATERIALS AND METHODS

Brainstems were carefully collected from SHRs and WKYs in two age stages: juvenile (5-week-old) and maturating (10-week-old). Next, they have been collected and homogenized. Enzyme-linked immunosorbent assay (ELISA) kits were used to analyze GRβ level. Data obtained was statistically analyzed using the GraphPad Prism Version 6.0.

CONCLUSIONS

The present study demonstrated a significantly higher level of this receptor level in the juvenile SHRs than their WKYs counterparts, suggesting the interaction of the nervous and endocrine systems in the ADHD course.

Title: Expression of ADAM8, ADAMTS10 proteins in colorectal cancer and their association with SEMA7A, and SEMA4D proteins, clinicopathological features and selected mutations.

Author(s): Piotr Limanówka, Błażej Ochman, Wiktor Wagner, Anna Kot, Dominika Koszewska

Tutor(s): dr hab.n.med. Elżbieta Świętochowska, prof. SUM

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

ADAM8 (a disintegrin and metalloproteinase 8) and ADAMTS10 (a disintegrin and metalloproteinase with thrombospondin motifs 10) proteins participate in extracellular matrix degradation processes and protein processing, including cytokines and receptors relevant in the development and progression of tumors. SEMA7A and SEMA4D belong to the semaphorin family of proteins, which play immunomodulatory roles in tumor pathogenesis. The understanding of the significance of these proteins in colorectal cancer pathogenesis is currently insufficiently understood.

AIM OF THE STUDY

The aim of the study was to determine the levels of ADAM8, ADAMTS10, SEMA7A, and SEMA4D proteins in colorectal cancer tissues and in surgical margin tissues, examine the correlation between the studied molecules, investigate the relationship between the expression of ADAM8 and ADAMTS10 proteins depending on the mutation status of KRAS, NRAS, BRAF, PIK3CA genes, and explore the relationship between the expression of the studied proteins and selected clinicopathological features.

MATERIALS AND METHODS

Examined protein concentrations were determined using the ELISA in homogenates of CRC tissue and surgical margins obtained from 88 patients. RT-PCR were used to analyzed mutations of the investigated genes in a subset of 56 patients.

CONCLUSIONS

The presence of mutations in KRAS and PIK3CA genes influences the expression of ADAM8 and ADAMTS10. The expression of SEMA7A and SEMA4D proteins may be associated with the expression of ADAM8 and ADAMTS10 proteins. The precise nature of molecular interactions between the studied molecules in the tumor microenvironment requires further investigation.

Title: Differences in the level of cortisol and corticosterone in the testis of spontaneously hypertensive rats.

Author(s): Aleksander Warzecha

Tutor(s): dr hab. n. med. Anna Kozłowska. prof. UWM

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The spontaneously hypertensive rats (SHR) are the most used model of hypertension. In humans and animals, cortisol, and corticosterone (CORT) are steroids, stress hormones, and one of the glucocorticoids. Numerous studies have evaluated the association between hypertension and impaired sexual health, in both men and women. It was present that the adverse effect of hypertension on male and female fertility may be connected with hormonal imbalance and changes in the gonadal vasculature.

AIM OF THE STUDY

Therefore, the present study aimed to compare cortisol and CORT levels in the testicular tissue of SHR - an animal model for hypertension and Wistar Kyoto rats (WKY) used in the present study as a control group.

MATERIALS AND METHODS

Testes were carefully isolated from SHR and WKY in two age stages: juvenile (5-week-old) and maturating (10-week-old). In the next step, they were homogenized. Next the levels of cortisol and CORT, using ELISA kits, were measured. The statistical differences between groups were analyzed by ANOVA by Tukey test using Graph Pad Prism 6 software (GraphPad Software, La Jolla, CA, USA).

CONCLUSIONS

The enhanced corticosterone levels in the testes of 10-week-old SHR might change their physiological function e.g. by regulation of testosterone secretion.

Title: Mechanism of action of cinnamic acid and its effects on the human gastric muscle.

Author(s): Małgorzata Stalewska,Katarzyna Chodak, Laura Marciniec, Marta Berczyńska

Tutor(s): Beata Modzelewska MD, PhD, Marzena Tylicka BSc, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Cinnamic acid (CIN) is a plant-sourced polyphenols which has been reported for its multiple properties as anti-diabetic and anti-oxidative capacity. However, up until now, it has not been examined as a possible muscle-relaxant agent in the human gastric muscle.

AIM OF THE STUDY

The study main objective is to assess the effect of CIN on the contractility of gastric smooth muscles. Moreover, we wanted to determine the relationship between its action and endogenous synthesis of nitric oxide and the activation of potassium channels.

MATERIALS AND METHODS

Tissues were obtained from patients undergoing sleeve gastrectomy due to obesity (N=10). The layer of smooth muscles was dissected, attached to a strain gauge, and placed in a tissue bath with Tyrod buffer at physiological temperature. After acclimatization contractions of muscles strips were stimulated using carbachol. Strips showing stable activity in response to agonists proceeded further in the experiments. (remainder is in „Abstract")

CONCLUSIONS

Our results indicate that cinnamic acid might become a potential agent in the treatment of functional gastrointestinal indigestion because it relaxes gastric smooth muscle by activating nitric oxide synthesis and directly activating potassium channels.

Title: Lyme Neuroborreliosis as the Great Imitator: Diagnostic Challenges and Problems

Author(s): Marijonas Zukas

Tutor(s): Assoc. prof. Jurgita Valaikiene, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Lyme borreliosis may damage skin, joints, eyes, the cardiovascular system, the nervous system, the gastrointestinal tract and more. The form affecting the nervous system is called Lyme neuroborreliosis. It occurs in ~3-12% of Lyme disease patients.

AIM OF THE STUDY

Various clinical manifestations of neuroborreliosis are discussed, as well as epidemiology, diagnostic and treatment modalities, with some case reports of Lyme neuroborreliosis of the past 5 years published in the international literature databases being presented.

MATERIALS AND METHODS

The literature review was performed in the English language, using data and case reports of people 18-years-old or older in databases PubMed and Google Scholar using the keywords Lyme disease, Lyme borreliosis, neuroborreliosis, great imitator, epidemiology, diagnosis manifestation.

CONCLUSIONS

It is important to discuss the heterogeneity of Lyme neuroborreliosis and Lyme disease in general and spread information regarding the prevention in order to raise awareness of both patients and medical professionals. A late diagnosis of neuroborreliosis (and late start of therapy) may result in progression of symptoms, slower recovery and worsen quality of life.

Title: Molecular epidemiology of Clostridioides difficile infection in patients hospitalized in Medical University of Lodz Central Teaching Hospital

Author(s): Agata Ptaszyńska, Anna Macieja, Filip Bielec

Tutor(s): Małgorzata Brauncajs PhD, Filip Bielec PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Clostridioides spp. is a gram-positive bacteria that produce toxins A, B, or both. It is the principal pathogen responsible for diarrhea related to antibiotic therapy in hospitals. Nowadays, it contributes to significant medical and economic burdens in hospital departments. In Poland in 2022, the CDI incidence was similar to 2021 but double the number from 2020. The increased CDI morbidity and infection severity has been observed in Europe. Polish hospitals are induced mainly by ripotybe 027, which is a highly hypervirulent strain. Another main factor that leads to CDI is that the medical staff does not adhere to sanitizing and antiseptic policies. Although the antibiotic therapy is the main reason for CDI, antibiotics are the recommended treatment. The first-choice drug should be fidaxomicin. The recommendation allows vancomycin as the second-line treatment. Metronidazole should be reserved only for the third-line treatment.

AIM OF THE STUDY

We investigated the prevalence of hypervirulent C.difficile RT027 and the epidemiology of vancomycin and the metronidazole resistance in the stool samples collected in the years 2018-2020 in Medical University of Lodz Central Teaching Hospital from patients with CDI.

MATERIALS AND METHODS

Stool samples (200) have been analyzed for the presence of C.difficile genetic material. All samples were tested for the presence of glutamate dehydrogenase antigen and A/B toxins, then anonymized and frozen. The genetic material was isolated and polymerase chain reaction was performed for the detection of genes encoding ribotype 027, vancomycin resistance, and metronidazole resistance.

CONCLUSIONS

The knowledge of the antibiotic resistance is essential to propose the best therapy for the patient. Sharing the data about the resistance from different hospitals in different countries would provide new and reliable guidelines for the antibiotic management policy, improve treatment outcomes, and reinforce the infection control.

Title: Invasive Streptococcus pyogenes infection in a 5-year-old boy.

Author(s): Gabriela Kuliś, Mateusz Zimowski, Mateusz Czajkowski, Jakub Dziemiańczuk

Tutor(s): dr n. med. Mariola Tałałaj

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Streptococcus pyogenes is responsible for a wide range of infections. Most of them are non-invasive; however, unfortunately some of them are invasive and despite treatment have a high mortality rate. The incidence of pneumonia caused by S. pyogenes is increasing alarmingly.

AIM OF THE STUDY

A 5-year-old boy in a serious general condition was admitted to the UDSK Clinic due to suspected sepsis. On admission, the boy had tachycardia, tachypnea, decreased alveolar sounds at the base of the left lung, intercostal retraction and a maculopapular rash with numerous petechiae on the skin of the entire body. Laboratory tests showed very high levels of inflammatory biomarkers and leukocytosis. Chest X-ray revealed inflammatory changes in the left lung and fluid in the left pleural cavity. A throat swab showed S pyogenes. Due to the developing pleural empyema, we decided to perform drainage of the left pleural cavity. Streptococcus pyogenes was identified in the fluid culture. The boy was admitted to the Intensive Care Unit in a very serious general condition. He was intubated and ventilated with a respirator. During hospitalization in the ICU, the boy was given antibiotics, as well as treatment to protect the vital functions. A follow-up X-ray showed a significant increase in pleuropneumonia.The patient underwent bronchofiberoscopy and the collected material did not show any bacterial growth. CT revealed extensive pneumothorax and disruption of the pleural continuity on the left side. The patient was qualified for urgent thoracoscopy, during which the left lung was freed from adhesions and conglomerates. Ten days after the procedure, it was necessary to re-install the drain due to repeated pneumothorax. After almost 2 weeks of stay in the ICU the patient was extubated and after 3 weeks of hospitalization he was discharged home.

MATERIALS AND METHODS

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CONCLUSIONS

The described patient was diagnosed with pneumonia complicated by pleural empyema and pleural perforation caused by Streptococcus pyogenes. GAS pneumonia is severe and fulminant. The above analysis indicates that in the case of severe pneumonia with an unclear course, we should be aware that its cause may be Streptococcus pyogenes.

Title: Severe cases of tick-borne encephalitis in Northeastern Poland

Author(s): Natalia Koda,Magdalena Chlabicz,Justyna Adamczuk

Tutor(s): professor Anna Moniuszko-Malinowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Tick-borne encephalitis (TBE) is the most common viral infection of the central nervous system in Poland. The disease is characterized by the presence of two stages. First phase, called viremic stage, presents with flu-like symptoms. It is usually followed by the period of no clinical symptoms. Second stage of TBE is characterized by a strong response from CNS. The course of the disease can be severe, but it can be successfully prevented by vaccination.

AIM OF THE STUDY

A 36-year-old female patient with no past history of chronic diseases and reporting tick bite had suspicion of meningitis. Physical examination revealed peripheral paralysis of the VII nerve on the left side, paresis of the left upper limb, full neck stiffness, and positive Kernig signs. The patient had no history of vaccination against TBE. During hospitalization, the patient condition rapidly deteriorated. She was intubated, and mechanical ventilation was started. In the following days of hospitalization, the patientcondition remained persistently serious, with eyeballs directed upwards and strabismus. After one year the patient was recumbent, breathing through a tracheostomy, due to periodic exacerbation of dyspnea with gasometric disturbances (hypoxemia, hypercapnia), requiring periodic invasive mechanical ventilation at home. A 57-years-old female patient with a past history of depression, multilevel discopathy, and two surgeries of the L/S segment of the spine, was admitted due to headaches, chills, nausea, vomiting, and dizziness for the past 3 days. The patient was bitten by a tick one week before onset of the symptoms. The patient was not vaccinated against TBE. During the hospitalization verbal contact became difficult, features of paresis of the left lower limb appeared and a fever up to 39.0°C. The patient condition became severe. The patient was confused, in limited contact, with impaired coughing and swallowing reflex. She required temporary high-flow oxygen therapy. Currently the patient is moving in a wheelchair. Flaccid paresis of the left lower limb persists and the muscular atrophy is still present.

MATERIALS AND METHODS

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CONCLUSIONS

There were few risk factors shown in our patients, but their cases were severe. Both of our patients were not vaccinated against TBE which could have prevented the disease. World Health Organization recommends vaccination as the primary preventative measure against TBE with its very good safety and efficiency profile.

Title: Coincidence of neuroborreliosis and tick-borne encephalitis

Author(s): Justyna Dubicka

Tutor(s): prof. dr hab. n. med. Joanna Zajkowska

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

In Poland, a tick-borne encephalitis is the most common form of neuroinfection. Due to the climate changes and increase of tourism we can observe enlargement of tick's area occurrence. Whereas a neuroborreliosis is the second most common variety of a borreliosis after erythema migrans. Both of them cause serious neurological complications in most patients. They require long-term treatment and rehabilitation.

AIM OF THE STUDY

A 46-years-old women presented to the emergency room because of headaches, neck and lower back pain that had been occurring for two days. She also reported impaired balance, fever and diplopia looking up and to the left. After CT of the head and an cerebrospinal fluid examination, which revealed lymphocytic inflammatory changes, the patient was transferred to the clinic. At the time of admission the patient's condition was serious with impaired consciousness. Positive meningeal signs were detected. PCR of the cerebrospinal fluid was positive for HSV2, but MRI did not show typical changes. Acyclovir was used in the treatment. There was no response and the patient developed paralysis of both brachial plexuses. The medical history reveled a tick bite about 2 weeks before hospitalization. Serological tests confirmed tick-borne encephalitis. The patient suffered from very severe back pain, but did not respond to painkillers. Meanwhile, she developed a left facial nerve palsy. All features of Bannwarth's triad were present. Serological tests detected IgM antibodies of Borrelia. Ceftriaxone was added to the treatment, which resulted in absence of seroconversion towards IgG. Neuroborreliosis was fully cured, but paresis of the upper limbs, neck muscles and infinitesimal peripheral facial nerve palsy persisted as a result of tick-borne encephalitis. After 30 days of hospitalization, the patient was discharged home with a recommendation to continue rehabilitation procedures.

MATERIALS AND METHODS

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CONCLUSIONS

The above case-report shows that diagnostics should not focus on one factor and be comprehensive. It is also important to use primary prevention against tick bites. People, who frequently spend time in forest or live in endemic areas, are recommended to be vaccinated against TBEV, which is currently the only effective way to protect themselves against this disease and its complications.

Title: The Vital Role of Neurosyphilis in Differential Diagnosis

Author(s): Magdalena Skorupska, Filip Bossowski

Tutor(s): prof. dr hab. n. med. Anna Moniuszko - Malinowska, lek. med. Maciej Giecko

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Navigating the diagnostic complexities of neurosyphilis amid coexisting cardiovascular concerns in patients with established hypertension and diabetes presents a multidimensional clinical challenge. This case articulates the nuanced diagnostic and therapeutic modalities employed to address the neurological and cardiovascular manifestations of syphilis in a medically complex patient.

AIM OF THE STUDY

A 46-year-old patient with a history of systemic hypertension and diabetes mellitus presented with progressive bilateral limb weakness and ambulatory disturbances over a six-month period. Detailed neurological examination at the Choroszcz Neurology Department revealed pronounced muscular atrophy in the upper limbs, disproportionately affecting the left side, and critical reduction in muscular strength, notably the inability to manipulate simple objects such as a pen. Serological assays initially ruled out Lyme disease; however, subsequent testing identified a positive microflocculation reaction for pallid spirochetes and elevated serological markers for Treponema pallidum. Cerebrospinal fluid analysis demonstrated elevated protein levels and IgG indices, consolidating the diagnosis of neurosyphilis. VDRL and TPHA tests further corroborated this diagnosis. Cardiological evaluation was prompted by anomalous echocardiographic findings, indicating a potential underlying cardiac dysfunction, which warranted further exploration at a specialist cardiology unit. The therapeutic regimen comprised guideline-concordant antibiotic therapy, which elicited a modest clinical improvement. The patient was discharged with comprehensive rehabilitation protocols.

MATERIALS AND METHODS

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CONCLUSIONS

This case highlights the importance of an integrated, multidisciplinary approach in diagnosing and managing neurosyphilis, particularly when linked with cardiovascular issues in patients with chronic conditions like diabetes and hypertension. It illustrates the essential role of combining expertise from neurology, dermatology, ophthalmology, and cardiology to effectively diagnose and treat syphilis-related complications. This collaborative strategy not only refined the diagnosis but also enhanced patient outcomes, emphasizing the need for coordinated care in complex multisystem disorders.

Title: Navigating the Unpredictable: A Case Study of Pyoderma Vegetans and Leg Vein Thrombosis Post-Liposuction

Author(s): Zuzanna Panas, Wojciech Szetela, Julia Kobylińska

Tutor(s): Prof. Anna Baran MD, PhD; Julia Nowowiejska MD, PhD; Prof. Iwona Flisiak, MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pyoderma vegetans is a very rare, chronic skin disease characterized by erythematous, vesiculopustular, exudative, vegetating plaques with elevated margins affecting the skin and mucosal membranes. The etiology is unknown, it is believed to be related to an excessive inflammatory reaction in response to bacterial infections, tattoos, foreign body reactions and halogens in patients with neutrophilic dermatoses or in immunocompromised patients. The diagnosis is based on the clinical picture, exclusion of other diseases and histopathology results. The lesion can heal spontaneously, but usually recurs. There are no standard treatment modalities, therapy should be aimed at treating the underlying disease.

AIM OF THE STUDY

A 35-year-old woman presented to the Dermatology Department due to skin lesions on the calf. They appeared one week after the procedure of lower limbs liposuction. On the physical examination, a month after surgery, erythematous-infiltrative lesion followed by severe lichenification in the same location was observed. Doppler USG revealed thrombosis of the left anterior tibial vein. Laboratory abnormalities were absent. A microscopic picture of the skin biopsy suggested pyoderma vegetans. Treatment with anticoagulants, systemic and topical antibiotics and topical steroids led to partial improvement.

MATERIALS AND METHODS

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CONCLUSIONS

Although liposuction is associated with various obvious side effects, pyoderma vegetans seems to be an unusual complication of the procedure. In the presented case, our patient had additionally deep vein thrombosis, which required special attention. Due to increasing number of liposuction procedures, physicians should be aware of the possibility of pyoderma vegetans occurrence.

Title: Presentation of a patient with a rare disease- teleangiectatic form of coutaneous mastocytosis, with particular attention paid to the course of the disease, its exacerbation and treatment

Author(s): Laura Szajwa, Wiktoria Izabela Gula, Anna Maria Modzelewska, Weronika Durańska

Tutor(s): Bernardetta Blecharczyk-Siergiejko, Prof. dr hab. Anna Baran, Prof. dr hab. Iwona Flisiak

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Background: Mastocytosis is a heterogeneous disease characterized by excess proliferation and accumulation of mast cells (MC) in one or more organs of which the skin is most commonly affected. Telangiectasia macularis eruptiva persants (TMEP), currently named telangiectatic cutaneous mastocytosis (CM), is an uncommon form, more often seen in young adults, occasionally associated with an underlying systemic involvement. Darier's sign is usually negative or slight.

Case report: A 45-year-old woman with 5-year history of the ambiguous skin lesions was admitted to the Dermatology Department for further diagnostics. The patient has been suffered from inhalant, food and contact allergies. Initially, the lesions in the form of small, oval-shaped pink-brown, maculo-papular, telangiectatic lesions were located on the trunk, further they spread to the distal parts. During several hospitalizations, numerous investigations did not reveal any deviations beside the skin biopsy which confirmed telangiectatic CM.

Conclusions: Telangiectatic cutaneous mastocytosis is a benign condition, but patients who have significant systemic symptoms should obtain a special care to prevent complications. Mainstays of treatment includes antihistamines, which prevent the activation of the mast cells. It is necessary to educate the patient about factors which may provoke MC degranulation or pose life-threatening symptoms.

Title: Intentional or accidental? Case report of dermatological factitious disorder.

Author(s): M. Olszańska, E. Mucharska, P. Leszczyńska

Tutor(s): Anna Baran, Iwona Flisiak

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

The self-induced dermatoses represent even about 2% of dermatology patient visits. The dermatological factitious disorder includes actions which lead to the damage of the body tissues however there are no certified suicidal intentions.

AIM OF THE STUDY

A 75-year-old man was admitted to the Dermatology and Venerology Department due to a 4-year history of a large shallow ulceration of a bizarre shape on the neck and occipital region. A histopathological examination revealed ulceration with substantial inflammatory infiltration and epithelium hyperplasia with presumably reactive dysplasia. The patient had three biopsies. In the differential diagnostics of basal cell carcinoma, pyoderma gangrenosum and others were considered. Laboratory tests revealed decreased values in morphology and increased CRP and IgA. A bacteriological examination showed Staphylococcus aureus MSSA ++ (with no drug resistance). The patient had post-stroke paresis of the right upper limb. Due to other hospitalized relations, the right-handed patient had often touched the affected area. Systemic and local treatment along with covering with wound dressings resulted in fast clinical improvement.

MATERIALS AND METHODS

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CONCLUSIONS

Dermatological factitious disorder occurs rarely, thus it can be misdiagnosed as a more common disease. It most often coexists with an emotionally unstable and immature personality. Accurate interviews and histopathology are of superior importance in diagnosis. Psychotherapy, antidepressants or antipsychotics are crucial in treatment.

Title: Difficulties in early diagnostics of Giant cell arteritis: a case report

Author(s): Ieva Lukauskaitė

Tutor(s): Assoc. Prof. Jurgita Valaikienė, MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Giant cell arteritis (GCA) also known as temporal arteritis, Hortons disease. GCA is the most common systemic vasculitis with an incidence rate of 15-30/100000. This vasculitis affects large and medium sized arteries, especially the extracranial branches of the carotid artery. Due to its wide spectrum of clinical manifestations GCA is difficult to suspect early, therefore raising awareness on GCA could help clinicians to diagnose it.

AIM OF THE STUDY

A 68 year-old male started to feel localised headache in left temporal region which later spread to the right side. Initially, his symptoms were nonspecific; therefore, he visited several neurologists and was diagnosed with cephalgia. However, symptoms progressed, the pain started to spread to the temporomandibular joints and problems with chewing and swallowing developed. One month later, the patient noticed subfebrile fever, as well as severe headache and swelling of the eyes; consequently, he was admitted to the department of internal medicine. The blood test showed significantly increased C-reactive protein (208mg/l) and leucocytosis. The extracranial color-coded duplex sonography revealed concentric hypoechogenic thickness of the walls in both superficial temporal arteries with increased blood flow velocities. The temporal arteries were very rigid and painful to the point that it was difficult to perform an ultrasound examination. Subsequently, giant cell arteritis was diagnosed. The patient received an intravenous course of methylprednisolone, followed by prednisolone and methotrexate tablets. The treatment was effective. After starting treatment with corticosteroids, an elevated glucose level was detected, and type 2 diabetes was diagnosed. Five years later, at the follow-up visit, the patient did not feel any pain or discomfort in the temporal area bilaterally. A control sonography did not show signs of vasculitis.

MATERIALS AND METHODS

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CONCLUSIONS

GCA is an insidious disease, usually starting with unspecific symptoms such as fatigue and headache. Early stages of the disease are difficult to differentiate and patients often visits various specialists. Every patient above 50 years old with a new onset of headache and/or increased erythrocytes segmentation rate (>50mm/h) and/or high CRP levels should be checked for GCA because delayed treatment for this disease leads to severe complications such as permanent blindness or vertebrobasilar stroke which are successfully preventable with an early treatment


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Title: Multifocal Juvenile Xanthogranuloma: A Challenging Diagnosis in Pediatric Dermatology

Author(s): Marharyta Vezhnavets, Julia Kobylińska

Tutor(s): Prof. Anna Baran MD, PhD

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Juvenile xanthogranuloma (JXG) is a rare disease but most common non-Langerhans cell histiocytosis. It usually presents as solitary yellowish nodules located on head and neck or fewer, as multiple disseminated nodules. Extracutaneous inclusions are rarity.

AIM OF THE STUDY

A 5-year old boy presented to a dermatologist with a five-week history of numerous, small, yellowish papules and nodules on the whole body. This appointment was preceded by three independent consultations with equal diagnosis of molluscum contagiosum. 10% KOH solution prescribed earlier didn't improve patient's condition. Finally, the last dermatologist challenged prior diagnosis. Dermoscopy showed a setting sun pattern and the child was urgently referred to the Pediatric Oncology and Hematology Department with suspicion of JXG. Multiple consultations and investigations did not reveal specific deviations. After two weeks newer corresponding lesions on soft palate, pharynx mucosa and eyes were revealed. PET scan showed metabolically active osteolytic lesion in the right pubic bone, in the skin and numerous small non-active lung nodules. Finally, multifocal juvenile xanthogranuloma was verified by biopsy. Patient started chemotherapy with vinblastine and prednisolone.

MATERIALS AND METHODS

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CONCLUSIONS

Pinkish or yellowish papule in a child might be misleading and extend the right diagnosis. Although rare, JXG should be included in the differential diagnosis. Given that JXG has many faces and extracutaneous involvement is possible, patients should be subjected to in-depth diagnostics. Systemic multifocal involvement in JXG is potentially fatal and the course of the disease depends on location of lesions. A multidisciplinary approach within chemotherapy, surgical or immunosuppressive treatment is recommended.

Title: Beyond the Norm: A Singular Case of Pityriasis Rosea Gibert

Author(s): Julia Parzych, Marta Całus, Paulina-Sophia Koladzyn, Aleksandra Skarżyńska

Tutor(s): prof. dr hab. n. med. Anna Baran

Affiliation(s):

Tutor(s) Affiliation(s):

INTRODUCTION

Pityriasis rosea Gibert typically follows a recognizable clinical course. However, some cases may pose diagnostic complexities due to their atypical features.

AIM OF THE STUDY

A 71-year-old patient with a history of arterial hypertension and type 2 diabetes, presented at the Dermatology Department with persistent skin lesions over the past 4 weeks. The skin lesions were initially located on the forearms and lower legs, later spreading to the trunk and head. The patient did not associate the onset of the lesions with any specific trigger. Dermatological examination revealed numerous papular-erythematous- edematous lesions of ambiguous character located on the head, trunk, upper and lower limbs, accompanied with massive bilateral blepharedema. Laboratory investigations revealed deviations related to the systemic diseases of the patient inter alia normocytic anemia, elevated creatinine and PSA concentration, proteinuria. A skin biopsy dispelled doubts and led to the diagnosis of pityriasis rosea Gibert. Untreated kidney disease could have potentially led to the atypical course of pityriasis rosea Gibert. Treatment with topical steroids resulted in the gradual resolution of skin lesions.

MATERIALS AND METHODS

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CONCLUSIONS

This case contributes to the body of knowledge surrounding pityriasis rosea Gibert by highlighting the diagnostic challenges associated with atypical presentations. The histopathological findings underscore the importance of biopsy for accurate diagnosis even of this common dermatosis.