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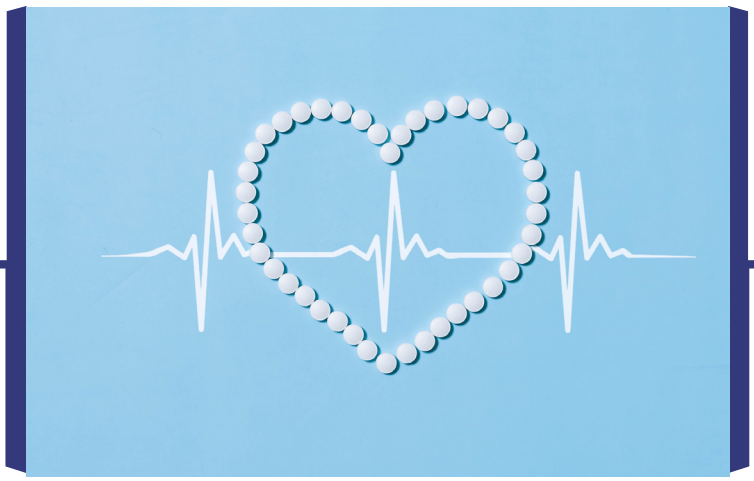

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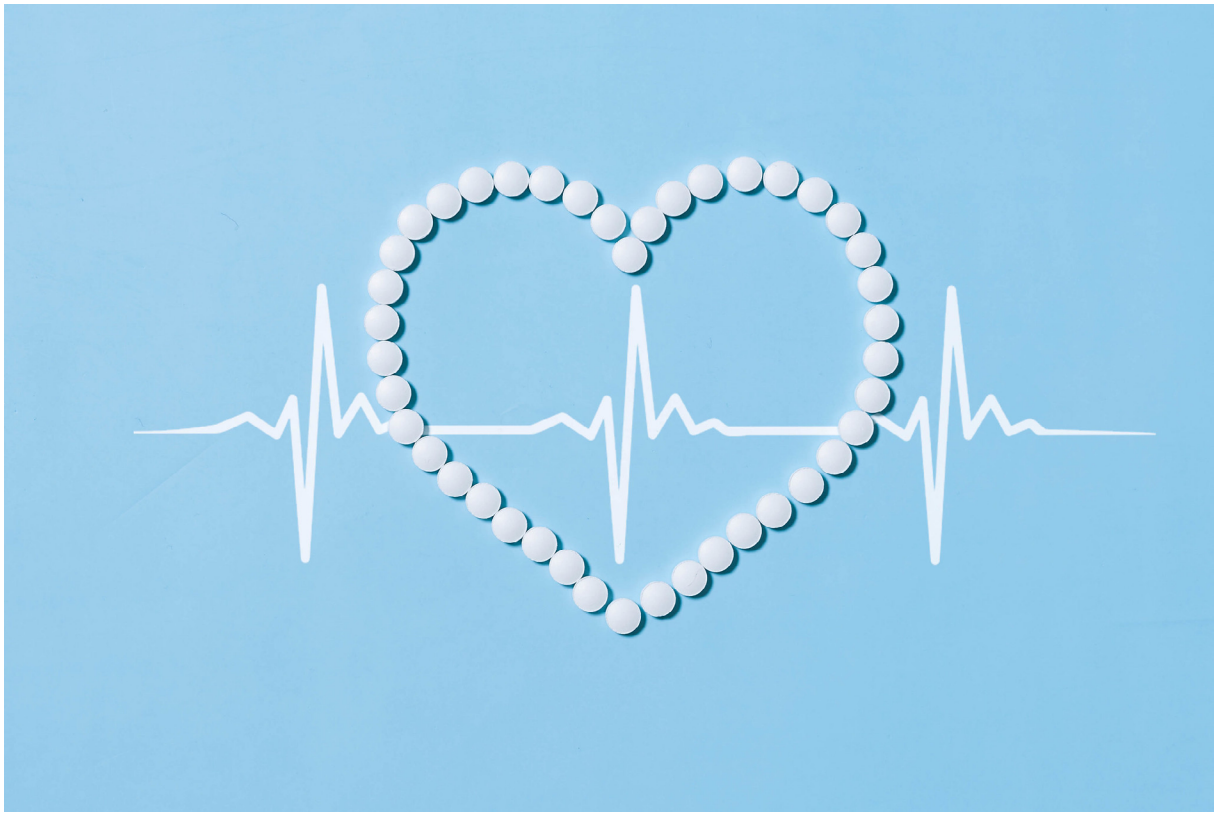

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AND CLINICAL MEDICINE 2023;6(Suppl.3):8

PSYCHOLOGY AND PSYCHIATRY 1

Obsessive-compulsive personality disorder vs. study addiction: an empirical study on association and relationships with well-being

Aleksandra Buźniak

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Institute of Psychology, University of Gdańsk, Gdańsk, Poland

Abstract

Introduction: Young musicians are a particular group with a higher risk of psychological vulnerabilities that affect their development and career. **Aim:** The study aimed to examine the relationship between obsessive-compulsive personality disorder, study addiction, and well-being among students of music academies. **Method and Materials:** A total of 255 students from music academies took part in the study. The Bergen Study Addiction Scale, the Five-Factor Obsessive Compulsive Inventory, Perceived Stress Scale, Hospital Anxiety and Depression Scale, Three-Item Loneliness Scale, and single-item measure of learning engagement were used. Multiple hierarchical regression analyses showed that study addiction was related to well-being above and beyond OCPD and showed a stronger relationship with deteriorated functioning. The results of the mediation also showed that study addiction fully mediated between OCPD and stress and loneliness and partially between OCPD and anxiety and depression. The moderation analyses revealed that there was no association between OCPD and depression among students with high study addiction. **Conclusions:** To sum up, study addiction seems to be an independent disorder from OCPD and is associated with considerable harm. Further systematic studies are highly warranted to provide better help.

Citation

Buźniak A. Obsessive-compulsive personality disorder vs. study addiction: an empirical study on association and relationships with well-being. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):8

PSYCHOLOGY AND PSYCHIATRY 1

Personality trait association with the choice of surgical or therapeutic residency profile

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Abstract

Introduction: Our aim was to identify if there is any statistically significant association between personality traits and preferences in choosing therapeutic or surgical specialty in medical student community using Ten Item Personality Measure (TIPI) scale. **Methods:** 419 participants of the Lithuanian University of Health Sciences (LUHS) completed the TIPI measure of the Big Five dimensions questionnaire which was created in "Microsoft Forms" platform. In this research, the association of five trait characteristics (extraversion, agreeableness, conscientiousness, emotional stability, openness to experiences) with the choice of residency profile was investigated. Instead of the planned 2 groups, we additionally distinguished individuals whose choice was neutral. Chi square and z test were used to analyse the data and search for significance. Data analysis was managed with the statistical platform SPSS Statistics,version 29. In our study from 419 medicine students, 63.25% (n=265) chose therapeutic specialty while 36.75% (n=154) picked out surgery. There was no significant difference in personal trait selection between therapeutic and surgical specialty. 21.51% (n=57) therapeutic and 19.48% (n=30) surgery choice students consider that they tend to extroversion, 5.28% (n=14) therapeutic and 8.44% (n=13) surgery choice into agreeableness, 32.45% (n=86) therapeutic and 27.92% (n=43) surgery choice prone to conscientiousness, 27.55% (n=73) therapeutic and 26.62% (n=41) surgery choice into emotional stability, 23.02% (n=61) therapeutic and 16.88% (n=26) surgery choice tend to openness to experience. **Conclusions:** There were no strong statistically significant associations between personality type and medical specialty choice. One of our explanations for this finding could be the stereotypical view that a certain specialty can only be entered with a certain combination of personal qualities is no longer relevant among medical students. Although, medicine students over a period of time can change their opinion and it is possible that the most accurate view is formed already after entering the residency. Further research is recommended.

Citation

Čeponis D, Žumbakys Ž. Personality trait association with the choice of surgical or therapeutic residency profile. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):9

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):10

PSYCHOLOGY AND PSYCHIATRY 1

Lorazepam in a schizophrenic patient with recurrent catatonia: a case report

Soumitra Das[1], Sakshi Prasad[2], Sheryl Deva[3], Thirunavukkarasu Sivashankari[4], Kriti Sapkota[5], Karthik Jayakumar[5], Francis Agyemang[6], Ashish Sarangi[7]

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Abstract

Introduction: Recurrent catatonia is characterized by episodes of grimacing, stereotypes, and negativism, alternating with stupor, posturing, and mutism lasting for 4-10 days. A significant element of recurrent catatonia is a history of brief episodes separated by periodic recurrences. Misdiagnosis of recurrent catatonia can lead to inappropriate management. It has been associated with mortality from dehydration, thrombosis, pulmonary embolism, and pneumonia when untreated. Prompt treatment may reduce morbidity in hospitalized psychiatric patients. Here we present a case report of periodic catatonia and the due course of treatment to add proof to the existing descriptive cases of recurrent catatonia. **Discussion:** An 18-year-old male was brought into the psychiatric hospital by his parents. His parents reported symptoms indicating delusion of persecution, verbal and physical aggression, social withdrawal, decreased self-care, anhedonia, and decreased attention and concentration with significant psychosocial dysfunction for the past 6 months. On further investigation, the patient had a positive family history of psychiatric illnesses. He was treated for schizophrenia, however citing poor drug adherence, presented two months later in April 2017 with worsening symptoms over the past 2 weeks in the form of withdrawn behavior, posturing, mutism, blank staring, and reduced sleep and appetite. Bush-Francis Catatonia Rating Scale (BFCRS) scored 25. Diagnosis of Undifferentiated Schizophrenia with Catatonia was made and inpatient care (IP) was advised. Treatment was restarted with Risperidone and Lorazepam (IV). The patient gradually improved with the BFCRS score being 4-5 and was discharged after one week of IP care. The patient was readmitted in November 2017 with recurring catatonic symptoms (posturing, staring, decreased oral intake, and decreased interaction) after stopping the drugs 3 weeks prior, citing severe sedation. **Conclusions:** A significant element of recurrent catatonia is a history of brief episodes separated by periodic recurrences. Catatonia is responsive to benzodiazepines and ECT (electro-convulsive therapy) regardless of the psychiatric or medical comorbidity.

Citation

Das S, Prasad S, Deva S, et al. Lorazepam in a schizophrenic patient with recurrent catatonia: a case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):10

PSYCHOLOGY AND PSYCHIATRY 1

Neurofeedback in the prevention of study addiction and reduction of its negative consequences

Aleksandra Wybrańska

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Abstract

Aim: The study aimed to review the literature on the specificity of study addiction and interventions aimed at reducing its risk and negative consequences using Neurofeedback technology. Study addiction is the most common addictive behavior in student populations – previous studies indicate a high risk among about 15% of students (Atroszko et al. 2021). **Discussion:** Despite the dynamic development of research on study addiction and numerous debates about the balance between studying and leisure, stress and burnout are increasing, not decreasing. Study addiction is significantly associated with chronic stress, anxiety, depres- sion, physical health problems, loneliness, and reduced school and academic achievements. Study addiction is also closely related to the inability to relax. Therefore, there is a great need to reduce stress and burnout – phenomena strongly associated with addiction to studying. Neurofeedback technology is effective in developing relaxation skills and reducing stress (Tabachnik, 2015). **Conclusions:** As research shows, especially focusing on the alpha rhythm, best observed in the occipital lobe with eyes closed, brings benefits in deepening the state of relaxation. Similar stud- ies were conducted among people addicted to alcohol and brought effects in the reduction in anxiety. However, the literature review did not indicate any studies on using this method in study addiction. We designed a pilot study for which we obtained funding from the Ministry of Education.Its aim is to examine the effectiveness of relaxation training with the use of Neurofeedback technology in reducing the symptoms of study addiction and its consequences, in particular excessive stress among students.

Citation

Wybrańska A. Neurofeedback in the prevention of study addiction and reduction of its negative consequences. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):11

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):12-13

PSYCHOLOGY AND PSYCHIATRY 2

Religiosity in the era of COVID-19 – how faith facilitates students' emotional well-being: an international study

Kaja Karakuła[1,2], Alicja Forma[1,2], Ryszard Sitarz[1], Jacek Baj[3], Hanna Karakuła-Juchnowicz[1], Jacek Bogucki[4], Wioletta Tuszyńska-Bogucka[5], Michael L. Tee[6], Cherica A. Tee[6], Josefina T. Ly-Uson[6], Md. Saiful Islam[7,8], Md. Tajuddin Sikder[7], Ahmed Hashem El-Monshed[9,10], Ahmed Loutfy[11], Saikarthik Jayakumar[12], Saraswathi Ilango[13], Senthil Kumar K[13], Ángel A. Ruiz-Chow[14], Adriana Iturbide[14], David D. González-Mille[14], Dariusz Juchnowicz[15]

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Abstract

Introduction: There are not conclusive findings regarding the possible protecting role of the religion on the mental health during the COVID-19 pandemic. Therefore, further research is needed to evaluate the role of religion in students' mental health and well-being during crisis situations such as COVID-19 pandemic. **Aim:** The purpose of this study was to assess the relationship between the level of emotional distress and religiosity among Christian students from 6 culturally different countries during the COVID-19 pandemic. **Materials and Methods:** Data was collected by an online cross-sectional survey that was distributed amongst Polish, Bengali, Indian, Mexican, Egyptian, and Philippine students (N=2840) from 12th April to 1st June 2021. The respondents were asked several questions regarding their religiosity which was measured by The Duke University Religion Index, the emotional distress was measured by the Depression, Anxiety, and Stress Scale-21 (DASS-21). **Results:** Students from the Philippines reached the highest level of depressive (Me=22.00±12.53,) and stress symptoms (Me=20.00±11.40) which corresponded to 'severe' and 'moderate' range, respectively. Regarding the anxiety subscale, the severe level was observed only in a group of Bengali Christians (Me=16.00±8.20). On the other hand, normal and the lowest levels of DASS-21 scales were reached by Egyptian responders (Me=0.00±8.16; Me=0.00±7.81; Me=0.00±8.16). Students from Egypt were found to be the most frequent churches attendees (Me=5.00±1.12) and declared the highest religious beliefs (Me=15.00±0.73). Polish (Me=4.00±1.41), Bengali (Me=4.00±1.15), Mexican (Me=4.00±1.18), and Egyptian (Me=4.00±1.45) followers reached the same mean scores and were the highest in the whole group in case of practice of religious activities. Christian responders significantly important but very low negative correlation was found between religious belief

and depressive (r=-0.153) and stress (r=-0.122) symptoms. **Conclusions:** Students with higher religious beliefs or experience presented lower depressive and stress symptoms. Spirituality was showed to be significantly associated with lower level of depressive and stress symptoms, but in fact it explains this phenomenon to a small extent.

Citation

Karakuła K, Forma A, Sitarz R, et al. Religiosity in the era of COVID-19 – how faith facilitates students' emotional well-being: an international study. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):12-13

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):14

PSYCHOLOGY AND PSYCHIATRY 2

Quality of life among women struggling with PCOS and endometriosis

Klaudia T. Bochniarz

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University of Gdańsk, Gdańsk, Poland

Abstract

Introduction: Gynecological and endocrine diseases affect more and more women of reproductive age. Current statistics indicate that in Poland, 4 to 12% of women suffer from polycystic ovary syndrome (PCOS), and about 14% from endometriosis (Palatyński, 2008). Both of these diseases are associated with significant difficulties in the daily functioning of patients. Moreover, comorbidity symptoms could significantly affect the mental health of these women. **Aim:** This study aimed to analyze the quality of life among women struggling with endometriosis and PCOS, compared to healthy women. **Materials and Methods:** The World Health Organization Quality Of Life (WHOQOL-BREF) was used to measure the variables. A structured interview was also conducted to better understand the specificity of gynecological and endocrinological symptoms experienced by the respondents. The study involved 64 women aged 20 to 45 and was performed using the paper-and-pencil method. The results of the analysis indicate that healthy women differ from women with PCOS and endometriosis in the declared quality of life. In addition, relationships between individual aspects of the quality of life, body image, and alexithymia were demonstrated. **Conclusions:** Conclusions from this study may provide novel clues for developing therapies more closely focused on the mental problems of these patients.

Citation

Bochniarz KT. Quality of life among women struggling with PCOS and endometriosis. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):14

PSYCHOLOGY AND PSYCHIATRY 2

Work addiction and work engagement: a network perspective

Piotr Bereznowski

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Abstract

Introduction

Work addiction and work engagement are two dimensions of heavy work investment having negative and positive consequences. Due to similarities between these phenomena, in certain conditions engaged workers might be at risk of developing work addiction. According to the network theory of mental disorders, the development of a mental disorder is a result of the activation of symptoms of that disorder which could be prevented with proper intervention. **Aim**: This study aimed to investigate the direct relationships between work addiction symptoms and work engagement dimensions in order to identify the relationships and symptoms/dimensions putting engaged individuals at risk of developing work addiction. **Materials and Methods:** In this study, three datasets including responses from working individuals were used. The datasets comprised responses from recently graduated Norwegians (n1=755, *M*age1=29.77, *SD*age1=7.15, 71.0% women), recently graduated Poles (n2=697, *M*age2=25.58, *SD*age2=3.41, 81.6% women), and Poles from the general population (n3=701, *M*age3=36.24, *SD*age3=11.30, 70.6% women). Psychological phenomena were measured with the Bergen Work Addiction Scale and the Utrecht Work Engagement Scale. The three networks were estimated jointly. To identify the most important (in this study's context) symptom of work addiction and the most important dimension of work engagement, nodes' centrality using the modified version of the node strength was estimated. **Results**: The results showed that the most important symptom of work addiction was mood modification and that the most important dimension of work engagement was absorption. **Conclusions:** These findings suggest that mood modification and absorption might play a crucial role in the process of developing work addiction among engaged workers.

Citation

Bereznowski P. Work addiction and work engagement: a network perspective. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):15

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):16

BIOTECHNOLOGY, BIOMEDICAL ENGINEERING AND BIOINFORMATICS

Epithelial-mesenchymal transition-related immune evasion in breast cancer cell lines of different molecular subtypes

Aniela Kosobucka[1], Agata Leśniewska[1], Justyna Topa[1], Marta Popęda[1,2], Agnieszka Stankiewicz[1], Priyanka Chakraborty[3], Maria Skrzypkowska[4], Anna Żaczek[1], Mohit Kumar Jolly[3], Aleksandra Markiewicz[1]

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Abstract

Introduction: Deregulation of expression of genes associated with antigen processing and presentation may be one of the key factors contributing to immune evasion of cancer cells, leading to uncontrolled tumour growth. Epithelial-mesenchymal transition (EMT) process has been linked with aggressive behaviour and various mechanism of immune evasion in cancers. **Aim**: The aim of this study was to test if there is a link between the expression of genes associated with antigen presentation and the EMT status of breast cancer cell lines belonging to different molecular subtypes. **Methods:** EMT status of 56 breast cancer cell lines belonging to luminal (N=20), HER2-enriched (N=9) and basal (N=27) subtype was assessed using three transcriptomic scores – 76GS, KS and MLR. For each cell line, correlations between the EMT scores and immune escape genes (immunoproteasome subunits *PSMB8, PSMB9, PSMB10; TAP1, TAP2*; MHC class I genes) was calculated. For validation, EMT was induced *in vitro* in the MCF10A cell line using TGF-β1. Expression of immune evasion- related genes was measured by qPCR and HLA class I molecules were quantified using flow cytometry. We found that EMT score correlated with expression of immune evasion-related genes: *PSMB8* ρ76GS=0.488; *PSMB9* ρ76GS=0.406; PSMB10 ρ76GS=0.646; *TAP2* ρ76GS=0.570; $p<0.05$ for all. The expression was lower in cells with mesenchymal phenotype belonging to basal molecular subtype. Such correlation was not found in HER2-enriched or luminal cell lines. Post-EMT MCF10A cells showed a 50% decrease in the expression of immunoproteasome subunit *PSMB10* ($p=0.01$) and a 39% decrease in the expression of *TAP1* transporter ($p=0.03$). The number of HLA class I molecules was reduced almost two-fold. **Conclusions:** There is a link between induction of EMT and downregulation of immunoproteasome in basal breast cancer cell lines. This opens potential therapeutics interventions aiming at EMT inhibition and restoring immunogenicity of breast cancer.

Citation

Kosobucka A, Leśniewska A, Topa J, et al. Epithelial-mesenchymal transition-related immune evasion in breast cancer cell lines of different molecular subtypes. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):16

BIOTECHNOLOGY, BIOMEDICAL ENGINEERING AND BIOINFORMATICS

Design and survey evaluation of an online international journal club on ketamine in psychiatric disorders

Jacek R. Lindner[1], Ashkan Ebrahimi[2], Julian F. Kochanowicz[2], Justyna Szczupak[1], Timothy Paris[5], Sagar V. Parikh[3], Rupert McShane[4,5], Sara Costi[4,5]

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Abstract

Introduction: During COVID-19 pandemic, a small UK group of psychiatry clinicians and trainees, launched the first free online journal club dedicated to educating and connecting international researchers and clinicians on the use of ketamine in psychiatric disorders. The journal club met routinely and the format consisted of various segments which evolved to allow for bidirectional discussions, sharing of ideas and networking between presenters and the audience members. The presentations were recorded and uploaded to a website. **Aim:** Survey evaluation and lessons learned from designing our online journal club's format. **Materials and Methods:** A website, mass emailing and word of mouth were used to announce the meetings. Evaluation was conducted by two anonymous online surveys, for speakers and audience members respectively, and emailed to a mailing list between November 2021 to February 2022. Speakers were given 14 statements, and audience members 12 statements, to which they could either agree, disagree, or neither agree nor disagree with. They were asked to select their primary career role and leave an optional written feedback. Survey statements were categorized according to satisfaction and impact. **Results:** The journal club met 24 times by the end of the study. An average of 51 participants either attended live and or watched the recordings from each session. 24 speakers from 8 countries presented their most recent ketamine publications to an audience of international professionals. 30 total survey responses were obtained, 12 from speakers (40%) and 18 from audience members (60%). There was an overall agreement with the statements for perceived satisfaction and impact of the journal club's format and positive written feedback was received. **Conclusions:** Our group's model needs further evaluation in terms of designing the best format for sharing of new ketamine research. A larger sample size and a more methodologically rigorous approach is needed to support its generalisability for delivering evidence-based virtual medical education.

Citation

Lindner JR, Ebrahimi A, Kochanowicz JF, et al. Design and survey evaluation of an online international journal club on ketamine in psychiatric disorders. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):17

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BIOTECHNOLOGY, BIOMEDICAL ENGINEERING AND BIOINFORMATICS

Liquid biopsy cancer classification using machine learning algorithms

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Abstract

Introduction: Liquid biopsy is a minimally invasive approach which may allow for diagnosis and monitoring of progression of cancer disease. Results of liquid biopsies are often analyzed using sequencing which results in generation of highly complex data and the possibility of using machine learning algorithms. Validation of potential clinical applications of these methods remains challenging. It requires using data from many patients, verifying potential bias concerning sample collection and adding interpretability to the model. **Aim:** In this work, we processed RNA-sequencing data of tumor-educated platelets (TEPs) and performed binary and multiclass classification. For the multiclass classification, the patients were grouped into classes based on their disease. We considered two different group splits. First consisted of 6 classes, namely asymptomatic controls, cardiovascular disease, NSCLC, glioma and glioblastoma, neurological diseases and other epithelial cancers. The second split consisted of 5 distinct classes, as cardiovascular and neurological patients were aggregated into the non-malignant disease class. **Materials and Methods:** The dataset consisted of samples from over a thousand patients. We tested two types of algorithms: convolutional neural network (CNN) and variational autoencoder (VAE). As a CNN we used a Resnet architecture in 18 layers variant. Variational autoencoder was used with multi-layer perceptron (MLP) classifier built on its latent space. CNN was used for binary and multiclass classification and VAE for multiclass only. **Results**: In binary classification Resnet reached 0.96 AUC on a test set. In multiclass it obtained 0.663 AUC for the first split and 0.667 AUC for the second. MLP classifier build on the VAE obtained more than 0.70 AUC for the former split and nearly 0.75 AUC for the latter. **Conclusions:** Our work proves the potential of using TEPs data combined with machine learning algorithms for cancer detection and classification.

Citation

Górski F, Pastuszak K, Cygert S, Supernat A. Liquid biopsy cancer classification using machine learning algorithms. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):18

BIOTECHNOLOGY, BIOMEDICAL ENGINEERING AND BIOINFORMATICS

Study of the influence of selected physical and physiological factors on the conductivity of the human body

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Abstract

Aim: The main objective of the research carried out was to find whether physical and physiological factors impact human body conductivity. **Introduction:** Nowadays, bioimpedance spectroscopy is a widely used tool in biosensorics, biomaterial science and even medical applications. This is possible thanks to its sensitivity to the differences in electrical conductivity of various tissues. In particular, bones and fat conduct electricity poorly, while tissues with high percentage content of water are good conductors. **Method:** Bioimpedance spectroscopy (BIS) was used as a method to determine the electrical properties of human tissues. It consists in stimulating the flow of electrical charge through the tissues using an AC signal and measuring the corresponding voltage to calculate the impedance. Three major parameters obtained in this study – Total Body Water (TBW), Intracellular Water (ICW) and Extracellular Water (ECW) were evaluated based on the obtained impedance results. As is known, the water balance in the human body is not stable and depends on several internal and external conditions. In this work, examined factors have been selected to induce cellular water ratio changes. By determining the electrical transport parameters, it was possible to investigate how introduced physical and physiological factors influence the human body's electrical properties. **Conclusions:** It was confirmed that there is a correlation between factors applied and human body conductivity. Some of the factors have a stronger impact on the human body's electrical behavior while others affect them to a lesser extent.

Citation

Czudec MM, Miruszewski T. Study of the influence of selected physical and physiological factors on the conductivity of the human body. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):19

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):20

PEDIATRICS

Prevalence of patent ductus arteriosus in children under 18 years in Latvia 2018-2022

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Abstract

Introduction: Accounting for 5-10% of all congenital heart defects, patent ductus arteriosus (PDA) is one of the most common congenital cardiovascular malformations. The condition is often diagnosed in the neonatal period. However, it can be delayed until childhood or even adulthood. A small PDA often doesn't cause problems and may never need treatment, but a large, untreated PDA can reduce heart function or problems related to high pressure in the lungs. **Aim:** Analysis and summary of data from medical history of patients with PDA in the system of the Children's Clinical University Hospital. **Materials and Methods:** The study included 70 patients diagnosed with PDA aged 0-18 years from term infants. Data were analyzed using the diagnostic criteria for PDA. **Results**: A total of 70 patients were enrolled in the study, of whom 71% (n=50) were female and 29% (n=20) were male. Most patients (60%) were children aged 0 to 3 years (n=42). The small and moderate PDA type predominate, each type is 44% (n=31) by PDA criterion. When analyzing one of the most important echocardiographic criteria for PDA, the LA /AO ratio, pulmonary hyperperfusion was present in 53% (n=36) of patients. Angiography to close the PDA was performed in 94% (n=66) of cases, open surgery was performed in 3% (n=2) of cases, and surgery was discontinued in 3% (n=2) because of disease. Of the total number of patients, complications occurred in only 5,8 % (n=4), including migration of the occluding device 3% (n=2), residual PDA 1,4% (n=1), and a small piece of the encapsulating ligature 1,4% (n=1). **Conclusions:** By 2021, 359 000 children had been registered in Latvia, and ~ 0,018 % of children aged 0-18 with PDA. For children born full-term, early diagnosis and correction of PDA enables a good long-term quality of life.

Citation

Paņina A, Ozoliņš V, ŠmitsL, et al. Prevalence of patent ductus arteriosus in children under 18 years in Latvia 2018-2022. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):20

PEDIATRICS

Comparison of diagnostic and treatment processes among pediatric and adolescents and young adults' populations suffering from acute lymphoblastic leukemia and lymphomas

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Affiliations

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Abstract

Introduction: Acute lymphoblastic leukemia (ALL) and lymphomas affect both pediatric and adult populations, therefore, they might be treated by pediatric and adult centers. It has been proven that the prognosis among adolescents and young adults (AYA) is poorer than among children. Many factors are suspected to affect the diagnostic and treatment processes in AYAs, one of them being the organization of the healthcare system. **Aim:** The aim of the study was to compare the time intervals between different events on disease trajectory in pediatric and AYA groups suffering from ALL and lymphomas. **Materials and Methods:** We collected data on 81 patients diagnosed with ALL (50 children and 31 AYAs) and 100 patients diagnosed with lymphomas (50 children and 50 AYAs). Statistical analysis was performed in order to compare the groups. **Results:** The results confirmed that the duration of the diagnostic process differs significantly between groups. For patients with ALL, the analyzed time intervals were significantly shorter in the pediatric group than in the AYA group: first contact with a GP – admission to Hematology Department (2 vs. 5 days; p-value=0.004), first contact with a GP – treatment (6 vs. 12 days, p-value=0.001), diagnosis – treatment (1 vs. 3 days, p- value=0.003). For patients with lymphomas, the results were similar: first contact with a GP- diagnosis (21 vs. 40.5 days, p-value<0.0001), first contact with a GP – treatment (27 vs. 65 days, p-value<0.0001). The longer patients had presented symptoms before contacting the primary care physician, the longer they waited for the beginning of treatment both in ALL and lymphomas groups (p-values=0.0129 and 0.0038 respectively). **Conclusions:** As the diagnostic and treatment processes are longer for AYA patients, actions must be undertaken in order to ensure equality as all patients should receive the best possible care regardless of their age.

Citation

Abdulaziz-Opiela G, Sobieraj A, Płotka A, et al. Comparison of diagnostic and treatment processes among pediatric and adolescents and young adults' populations suffering from acute lymphoblastic leukemia and lymphomas. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):21

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PEDIATRICS

Etiology and complications of acute myocarditis in children in Latvia in 2017-2021

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Abstract

Introduction: Acute myocarditis is a rare, but dangerous inflammatory disease. It can become a cause of child's death, especially in infants. Diagnosis may be challenging because of variable clinical presentation. Often the etiology of this disease cannot be found. Prognosis of acute myocarditis is also variable. **Aim**: To analyze and summarise the data from the medical history of patients with acute myocarditis in the system and archive of the Children's Clinical University Hospital. **Materials and Methods:** This study included 25 patients diagnosed with acute myocarditis aged 0-18 years. The data were analyzed according to the diagnostic criteria for acute myocarditis in children. **Results**: A total of 25 patients with acute myocarditis were included in the study, of whom 28% (n=7) were female and 72% (n=18) were male. 76% (n=19) of patients survived, but 24% (n=6) died. In 48% (n=12) of cases, the cause of acute myocarditis was found, but for 52% (n=13) it was unclear. In 20% (n=5) of patients, it was connected with the COVID-19 virus or vaccine. 16% (n=4) of cases were caused by other viruses. Of the total number of patients who died, 83% (n=5) of them were infants. All of the deceased patient's diagnosis of acute myocarditis were confirmed during autopsy. All of the surviving patients were older than one year. Out of those patients, who survived, 26% (n=5) had cardiovascular complications. **Conclusions**: Acute myocarditis can cause many complications, including death of the patient. In half of the cases no cause can be found. Diagnostic is challenging due to nonspecific symptoms.

Citation

Bajeva J, Ligere E. Etiology and complications of acute myocarditis in children in Latvia in 2017-2021. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):22

PEDIATRICS

A case of an adolescent with galactocele and pituitary macroadenoma

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Abstract

Introduction: The spectrum of pediatric breast diseases differs from that of the adult. In puberty, physiological gynecomastia occurs in most adolescents. Usually, it doesn't require treatment and resolves on its own. Prepubertal children with asymmetric breast buds can present with a palpable subareolar mass in the breast. Galactoceles most commonly seen in women, but can present in children with or without endocrinopathy. Breast enlargement in boys may be one of the symptoms of hyperprolactinemia. Poor clinical manifestations of hyperprolactinemia and the absence of typical symptoms of hypogonadism in children underlie the extremely limited information about cases of hyperprolactinemia in this age period. **Case discussion:** A 16-year-old boy was admitted to the hospital due to rapid asymmetric enlargement of both mammary glands. The first complaints appeared in May 2022. In June a US examination showed a cyst of the left breast. The cysts were punctured 2 times. In the smears, fat, single cells like colostrums and flattened epithelium cells were found. Atypical cells were absent. In November laboratory tests revealed: increased prolactin level – 26790 µIU/l, TSH, free T4, LH, FSH, E2 and testosterone were in normal range. US examination showed the presence of cysts in breast and left epididymal cyst. MRI with contrast revealed pituitary macroadenoma and retrocerebellarly was determined arachnoids cyst. He is currently receiving cabergoline treatment and breast volume doesn't increase. Neurosurgical treatment due to the lack of compression of visual pathways isn't now required. Since the patient had multiple cysts of various localizations polycystic disease was suspected and a genetics consultation was recommended. **Conclusions**: In the present case, there is a combination of two rare pathological conditions in children, especially in boys, which can either be combined with each other or be found separately. Cysts constitute a clinical problem and require an evaluation of coexisting hormonal disturbances.

Citation

Khrapavitskaya K. A case of an adolescent with galactocele and pituitary macroadenoma. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):23

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PEDIATRICS

Assessing values for TDI and -APSE in pediatric population to evaluate ventricular function in different ages

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Abstract

Introduction: Assessment of myocardial motion with echocardiography tissue doppler imaging (TDI) is widely used to evaluate ventricular function. TAPSE, MAPSE and SAPSE modality provide additional information of right and left ventricular function. The latest data available on the distribution of tissue doppler indexes in healthy children range of age 1-18 was done around 20 years ago. A**im:** Is the preliminary analysis of TAPSE, SAPSE and MAPSE as well as TDI parameters in a range of age 0-18 and prior to future revision of reference values for these parameters. The focus was to assess the influence of age on TDI, TAPSE, SAPSE and MAPSE. **Materials and Methods:** A Total of 288 healthy children in the range of ages 0-18 were examined with Vivid electrocardiography system with a pediatric cardiologist using standard protocol. Statistical analysis was carried out with Wizard 2 software. Variables are reported in mm (-APSE) or cm/s (TDI) and as mean ±SD if having normal distribution or as median (min-max) otherwise. Pearson correlation was used to assess correlation between variables. R2 (p-value) are reported. P-value less than 0.05 was considered significant. Re**sults:** Median age was 5.33 (0.0 max 18.0) years. TAPSE was 21±5, SAPSE 12±3 and MAPSE 14±4. All the parameters positively correlated with age: 0.27 (<0.001), 0.26 (0<.001) and 0.36 (<0.001) respectively. TDI average results:

LS` 10.2±2.9, SS` 8.3±1.5, RS` 12.9±2.3

LE` 17.3±3.6, SE` 13.9±2.4, RE` 16.3±3.3

LA` 6.3±2.3, SA` 6.4±2.2, RA` 9.2±3.9

Respective parameters positively correlated with age – except for RE`(0.583).

LE` 0.24 (<0.001) LA` 0.05 (0.002), LS` 0.44 (<0.001),

SE` 0.25 (<0.001) SA` 0.09 (<0.001), SS` 0.28 (<0.001),

RA` 0.14 (<0.001), RS` 0.15 (<0.001). **Conclusions:** Analyzed echocardiographic variables correlate with age preventing the use of singular cut-off value in the pediatric population. Proper reference/normative values in the form of charts need to be developed.

Citation

Esho M, Brabner E, Meyer-Szary J. Assessing values for TDI and -APSE in pediatric population to evaluate ventricular function in different ages. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):24

PEDIATRICS

How does excess body weight affect short stature treatment in children with growth hormone deficiency?

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Abstract

Introduction: Short stature in growth hormone deficiency (GHD) can be treated with recombinant human growth hormone (rhGH), which is proven to be both safe and effective (1). However, a significant number of patients do not have satisfactory therapeutic outcomes, and indicators of therapy efficacy are unreliable (2). **Aim:** Evaluation of the excessive body mass impact on rhGH therapy effectiveness in GHD children. **Materials and Methods:** Between 2012 and 2022 at the Department of Clinical Pediatrics at the Provincial Specialist Children's Hospital in Olsztyn a total of 165 short-stature children with isolated GHD (mean age 10.72±3.33 years; 37% females), were treated with rhGH for at least one year (mean follow-up 4.32±1.80). Patients were separated into three groups based on their body mass index (BMI) standard deviation score (SDS): underweight, normal weight, and overweight. Height, BMI, and insulin-like growth factor 1 (IGF-1) were standardized for chronological age and gender using World Health Organization guidelines (4,5). **Results:** According to the mean BMI SDS (based on the baseline to the fourth year after rhGH therapy onset), the normal weight group consisted of 133 children (81%): fifty-two girls and eighty-one boys (39% and 61%, respectively). Eighteen patients (11%) in the overweight group comprised six girls and twelve boys (33% and 67%, respectively). Mean height velocity (based on height SDS in consecutive years between baseline and fifth year) for the normal weight group was 0.44±0.25/year and for the overweight group it was 0.32±0.24/year ($p<0.1$). **Conclusions:** Excess body weight seems to negatively affect rhGH therapy outcomes in children with GHD.

Citation

Maroszczuk T, Kapała J. How does excess body weight affect short stature treatment in children with growth hormone deficiency? Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):25

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):26

MIDWIFERY

Role of midwife in pregnancy care of a woman with severe malaria in third trimester

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Abstract

Introduction: Cameroon is an endemic country for malaria. Every year, around 6 million cases of the disease are registered in health facilities. Among those cases are also women in different stages of pregnancy. The *plasmodium falciparum* infection not treated within the first 24 hours can develop into severe illness and cause multi-organ damage both in the mother and fetus. The main role of a midwife working with such cases is rapid diagnosis and effective medical care. **Case discussion:** A woman in her mid-thirties was admitted to the local health center- CSIMI Karewa Figuil in the third trimester of pregnancy. Unfortunately, we didn't obtain any other information about the exact gestational age. The patient's complaints were severe headache, chills and myalgia. Laboratory tests showed the presence of >10 000/µl sporozoites. The patient showed clinical signs of anemia, however we concentrated on treating the underlying disease. FHR recording showed persistent tachycardia between 180-200 bpm. Firstly, we administered 3 infusions of Artesunate 0h/12h/24h, then Quinine for 4h i.v. and finally Artemeter p.o. 0h/12h. Due to medical staff shortage, the calculation of doses and medication prescription are the midwife's responsibilities. **Conclusions:** The role of the midwife in preventing, diagnosing and taking maternal and fetal care is crucial in fighting malaria and thus decreasing the mother's mortality and stillbirth's rate. It is essential to educate the personnel especially, in times when travelling to exotic regions such as Africa has become very popular.

Citation

Bisch M, Szablewska A. Role of midwife in pregnancy care of a woman withsevere malaria in third trimester. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):26

MIDWIFERY

A rare case of a postpartum woman with HELLP syndrome: diagnosis, treatment and role of midwife

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Abstract

Introduction: HELLP syndrome is a rare disease, but simultaneously one of the most serious. The symptoms are pluralistic and nonspecific. Currently, it affects up to 0.2% to 0.8% of all pregnancies. About 1⁄3 are cases in which the disease manifests itself up to 48 hours after delivery. The disease got its name from the most characteristic symptoms i.e. H – Haemolysis, EL – Elevated Liver Enzymes, LP – Low Platelets. **Case discussion:** Patient after the natural delivery was transferred to the Maternity Ward in good general condition. In the evening, attention was drawn to excessive sleepiness, difficult communication and disinterest of the newborn. The blood pressure oscillated around 140/105 mmHg. The headache was the only symptom the woman was talking about. In the course of HELLP syndrome, patients usually complain of pain in the right quadrant of the abdomen, weakness, nausea, vomiting and headache. In addition jaundice occurs too but rarely. Based on clinical presentation and laboratory test which confirmed haemolysis, elevated liver enzymes, low platelets and elevated bilirubin, recognized HELLP Syndrome. Hypotensive treatment, steroid therapy, lactulose, ornithine aspartate and platelet transfusion were implemented. The result of treatment was satisfactory. The midwife as a therapeutic team member is a very important element in diagnosis, treatment and recovery of the patient. She is an emotional support for the woman and the newborn in a difficult time. **Conclusions**: As medics, we shouldn't downplay nonspecific symptoms, because it may indicate a serious illness. The patient should receive holistic care, as a result the quality of treatment will improve.

Citation

Budna P, Szablewska A. A rare case of a postpartum woman with HELLP syndrome: diagnosis, treatment and role of midwife. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):27

EUROPEAN JOURNAL OF TRANSLATIONAL
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MIDWIFERY

Level of self-esteem and sexual activity of women after childbirth

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Abstract

Introduction: Resumption of sexual activity after birth can cause changes in intercourse frequency as well as satisfaction. Women's self-esteem during pregnancy and after childbirth may be damaged by changes in physique, and accommodating for motherhood, which can cause a loss of sense of identity. **Aim:** The main purpose of the study is identifying the level of self-esteem and the factors determining the resumption of sexual activity in women after childbirth. An additional purpose is assessing the relationship between taking up sexual activity and self-esteem level of the surveyed women. **Materials and Methods:** The research material consisted of 350 women within a month up to a year after birth, in a permanent relationship and regarded their last delivery. The study uses the diagnostic survey method using a proprietary questionnaire as well as a test for assessing the general self-esteem level (SES – Rosenberg's Self-Esteem Scale – PL). The respondent was also asked about her feelings regarding the last delivery and sexual activity with her partner during pregnancy and after birth. **Results:** Most important results show that the more often that women had intercourse after childbirth the higher their self-esteem was. Over half the surveyed didn't maintain regular sexual activity during pregnancy and those who did – had intercourse after birth more often. 62% of them intentionally postponed sex while breastfeeding. Almost 90% said that sexual activity isn't discussed enough by the medics. Lower self-esteem level can suggest lack of feeling sexually attractive, closeness to the partner and decreased frequency of sexual intercourse after childbirth. Stress before resumption of sexual activity is connected to the changes in body, fear of being dissatisfied with the intercourse and other causes. **Conclusions:** Sexual activity is an important subject in every woman's life that is still not discussed enough. Realizing the connection between self-esteem and sexual activity is key to helping women have a more satisfying sexual life after childbirth.

Citation

Rozmarynowska W, Czerwińska-Osipiak A. Level of self-esteem and sexual activity of women after childbirth. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):28

MIDWIFERY

Prevalence of gestational diabetes and preterm labor – midwife led care

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Abstract

Introduction: Gestational diabetes mellitus (GDM) is a disease entity diagnosed in pregnancy by means of an Oral Glucose Tolerance Test (OGTT) performed at specific weeks of pregnancy according to the Organizational Standard of Perinatal Care. Gestational diabetes mellitus will not cause fetal malformations due to the timing of its development (II-III trimester of pregnancy), but can directly increase the risk of, among other things, preterm premature rupture of membranes (PPROM) leading to preterm delivery (PTD). Numerous fetal malformations mainly affect mothers who had diabetes before pregnancy. **Case discussion:** The research method used was the case study method. The pregnant woman who was the subject of the study developed PTD as a result of PPROM due to which she was admitted to the Pregnancy Pathology Department at 32+3 weeks of pregnancy. One of the comorbidities was gestational diabetes mellitus, which may have affected the termination of the pregnancy at 33 weeks' gestation. Pregnant woman also had frequent high blood pressure values, as well as anxiety related to a fetal birth defect. Drug therapy with Betamethasone and close monitoring of her general and obstetrical condition were implemented. **Conclusions:** Through a well-planned pregnancy care plan led by a Midwife for the pregnant woman, and its effective implementation, it was possible to avoid the development of pre-eclampsia, intrauterine infection and reduce blood glucose values.

Citation

Kwiatkowska W, Czerwińska-Osipiak A. Prevalence of gestational diabetes and preterm labor – midwife led care. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):29

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):30

BIOMEDICAL SCIENCES 1

Multielemental analysis of human optic chiasm by means of ICP-MS – a postmortem study with a focus on gender, age, and alcohol abuse

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Abstract

Introduction: Disturbed levels of chosen elements as well as accumulation of toxic metals in the human eye might lead to the pathogenesis of several ophthalmic diseases or worsen the symptoms of the current ones. So far, most of the metallomic studies performed on the organ of vision concerned only animal studies. The majority of the studies performed on human tissues focused only on the chosen structures such as a lens or anterior chamber fluid which can be easily obtained during cataract surgery. **Aim:** The objective of this study was to perform and analyze the elemental composition of human optic chiasms using inductively coupled plasma mass spectrometry (ICP-MS) focusing on the concentration of chosen micro-, macronutrients, and toxic metals. **Materials and Methods:** Samples of the optic chiasm were collected from 107 deceased (20 females and 87 males) in the Department of Forensic Medicine in Lublin, Poland. The study group was divided into individuals with (n=25) and without alcohol use disorder (n=82). The optic chiasms were analyzed using ICP-MS assessing the concentration of 49 elements in each sample. Statistical analysis included non- parametric tests and cluster analysis. **Results:** There are visible trends regarding the concentration of chosen elements in the studied population concerning age, gender, and alcohol abuse. The two most abundant elements in human optic chiasm were iron and zinc. Disturbingly, pathologically high concentrations of toxic metals such as aluminium were observed in the studied samples. Also, individuals with alcohol use disorder presented disturbances in the concentrations of key elements involved in nerve signalling. A disturbing affinity of toxic metals primarily aluminium but also lead, uranium, bismuth, chromium, and cadmium was observed in the human optic chiasm. **Conclusions:** These results indicate the possible risks and pathologies that arise because of metal neurotoxicity in the organ of vision.

Citation

Forma A, Flieger M, Januszewski J, et al. Multielemental analysis of human optic chiasm by means of ICP-MS – a postmortem study with a focus on gender, age, and alcohol abuse. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):30

BIOMEDICAL SCIENCES 1

Circulating adenosine deaminase isoenzymes in Coronavirus Disease-2019

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Abstract

Introduction: Endothelium is a preferential target for SARS-CoV-2 infection resulting in widespread endotheliitis. Previously, we have reported that vascular adenosine deaminase 1(ADA1) may serve as a biomarker of endothelial activation and inflammation, while ADA2 plays a critical role in monocyte/macrophage polarization. **Aim:** We investigated the activities of circulating ADA isoenzymes in patients after COVID infection (postCOVID) and related them to the parameters of inflammation and microvascular/endothelial function. **Materials and Methods:** Microvascular reactivity was assessed by FMSF technique in healthy controls(n=25) and in patients after no-symptomatic or mild COVID infection(n=40). Serum samples(collected 2 months after COVID diagnosis) were obtained to assess the levels of amino acids by LC/MS, ADA isoenzymes' activities by UHPLC, interleukins by the Luminex Multiplex platform, while CD26, sICAM-1, CRP, and HIF1α by ELISA kits. For in vitro analyses, human microvascular lung endothelial cells(HULEC) were pre-treated with patients' sera and used for the adhesion assay with fluorescently-labeled human neutrophils. ADA1, ADA2, and CD26 proteins were visualized by fluorescence microscope, while cell-surface ADA activities and intracellular nucleotides were assessed by UHPLC. **Results:** PostCOVID patients revealed microvascular dysfunction, which correlated with the changes in circulating L-arginine metabolites and sICAM-1 relating to endothelial dysfunction and activation. They demonstrated higher levels of serum TNFα and lower IL-10 concentration than controls. Interestingly, total serum ADA activity and ADA2 isoenzyme were significantly lower in postCOVID patients, while ADA1 activity remained unchanged. PostCOVID patients demonstrated lower circulating levels of ADA1-anchoring protein, CD26. In vitro studies revealed that HULEC exposed to post-COVID patients' sera changed their adenosine metabolism ecto-enzyme pattern and the ability to the neutrophils' adhesion. Both, ADA1 and CD26 were upregulated in HULEC after the incubation with post-COVID patients' sera. **Conclusions:** ADA1 by the interaction with CD26 may be recognized as a potential adhesion molecule that attracts immune cells to the endothelium.

Citation

Stawarska K, Braczko A, Jedrzejewska A, et al. Circulating adenosine deaminase isoenzymes in Coronavirus Disease-2019. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):31

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BIOMEDICAL SCIENCES 1

The release of nucleotides and their catabolites by stenotic aortic valves

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Abstract

Introduction: Aortic stenosis is a pathological process within the aortic valve (AV) that is characterized by the deformation of valve leaflets through the accumulation of calcium deposits. It has been found that blood extracellular nucleotides and their catabolites may intensify or suppress calcification processes in AV. **Aim for the study:** This study was aimed to investigate disturbances in purinergic signaling pathways during aortic stenosis, particularly in the release of nucleotides followed by the production of their catabolites on the AV surface and in the activities of nucleotide metabolism ecto-enzymes. **Methods:** Non-stenotic AV (n=5) and pathologically changed AV (n=6) were incubated 30 min in Hanks Balanced Salt Solution (HBSS). Total concentration of purines (adenosine, inosine, and hypoxanthine) was analyzed in medium using ultra-high-performance liquid chromatography. Valvular endothelial (VEC) and interstitial (VIC) cells were isolated from non-stenotic valves and incubated 60 min in HBSS with 0.5mM iodoacetate and 5µg/ml oligomycin or with 100µM peroxynitrite **Results:** Total concentration of purines in non-stenotic AV increased to 2.17±0.31µM, while uridine to 0.58±0.06µM. In pathologically changed AV, total purines increased to 1.69±0.24µM, while uridine to 1.34±0.25µM. Both adenine and uracil nucleotides were hydrolyzed on the stenotic and non-stenotic valve surfaces. Interestingly, results obtained from VEC and VIC cells revealed that significant amounts of adenine and uracil nucleotide catabolites were determined in VEC medium, while in VIC medium mainly adenine nucleotide degradation products were found. **Conclusions:** Our results indicate that under pathological conditions valvular endothelial cells release significant amounts of nucleotides that may be catabolized to adenosine and uridine by cell surface ecto-enzymes.

Citation

Stawarska K, Walczak I, Jabłońska P, et al.The release of nucleotides and their catabolites by stenotic aortic valves. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):32

BIOMEDICAL SCIENCES 1

Profiling the antidiabetic compounds of *Bidens pilosa* targeted towards glucokinase (1v4s) activation: a computational insight

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Abstract

Introduction: Diabetes mellitus is a metabolic disorder that is characterized by persistent hyperglycemia. Glucokinase is a regulatory enzyme in glucose metabolism and a potential therapeutic target in type 2 diabetes mellitus to regulate glucose levels. *Bidens pilosa* is a medicinal plant that has been observed to exhibit antidiabetic potentials for the management of diabetes. However, there is a dearth of scientific information on the bioactive compounds responsible for its glycemic control. **Aim:** Therefore, the present study investigated promising bioactive compounds from *Bidens pilosa* that express important molecular interactions with glucokinase allosteric binding site using an in silico approach. **Materials and Methods:** We retrieved the three-dimensional crystal structure of Glucokinase (PDB ID: 1V4S) from the protein data bank and prepared it using the Maestro 12.5, Schrödinger Suite 2020-3 software. Similarly, the Ligprep module of Schrödinger Suite 2020-3 was used to prepare forty-seven phytocompounds of *Bidens pilosa* identified from ethnobotanical databases. The protein and the ligands were subjected to molecular docking analysis, pharmacophore modeling, binding free energy calculation, and ADMET predictions. **Results and Discussion:** The results revealed five top-scoring compounds of *Bidens pilosa,* with N(beta)-acetyl streptothricin D having the highest binding energy (-9.923 kcal/mol). The five *Bidens pilosa* compounds were shown to interact with important amino acid residues of glucokinase activator binding site through conventional chemical bonds such as hydrogen bonds (TYR A:215, THR A:65) and several hydrophobic contacts. These compounds also possessed acceptable ADMET properties. The drug-likeness and pharmacokinetics parameters expressed the necessity for a lead optimization study to compensate for the violation of certain criteria by the compounds. **Conclusions:** The screened bioactive compounds from Bidens pilosa may be considered for further development as new glucokinase activators and more efficient antidiabetic agents after lead optimization and further experimental studies.

Citation

Omale S, Oshibanjo OD, Nweze VN, et al. profiling the antidiabetic compounds of Bidens pilosa targeted towards glucokinase (1v4s) activation: a computational insight. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):33

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BIOMEDICAL SCIENCES 2

Molecular and functional consequences of epithelial-mesenchymal transition in triple negative breast cancer

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Abstract

Introduction: Triple negative breast cancer (TNBC) shows the worst prognosis among molecular subtypes of breast cancer (BC) [1]. One of the factors that underlies its aggressive behavior is activation of epithelial-mesenchymal transition (EMT) – a process that was shown to equip tumor cells in malignant features [2]. **Aim:** The aim of the study was to check the level and molecular consequences of EMT activation in TNBC tumors and cell lines. **Methods:** Based on publicly available gene expression dataset of TNBC cell lines (N=27), EMT activation was assessed using transcriptomic scores: 76GS, KS and MLR. Expression of DNA-damage resistance/repair genes was compared between cell lines with epithelial and mesenchymal phenotype. Additionally, EMT inhibition effect with Pyrvinium pamoate (PP) was tested *in vitro* in mouse TNBC cell line – 4T1 as well as *in vivo* in Balb/c mice orthotopically injected with 4T1- GFP cells. Metastatic spread was evaluated by analysis of circulating tumor cells (CTCs) and presence of overt metastases. **Results and Discussion:** 52% of TNBC cell lines showed epithelial and 48% mesenchymal phenotype. Analysis of genome stability-related genes in TNBC cell lines revealed significantly higher expression of *KAT2B* (p=0.000016), *MSRB3* (p=0.0002) and EMT-related transcription factor *ZEB1* (p=0.000014) genes in mesenchymal compared to epithelial cell lines. Treatment of 4T1 cell line with 2.5 nM PP decreased mesenchymal phenotype (Vimentin – 0.52 fold decrease, p=0.001, E- Cadherin – 1.78 fold increase, p=0.0001). In the mouse model, EMT inhibition resulted in decreased number of mesenchymal CTCs (median of 22.6 vs 0 CTCs per 1 mL of blood, p=0.08) and overall number of metastases (p=0.04). **Conclusions:** Although TNBC is commonly considered as having mesenchymal features, it exhibits epithelial phenotype in a large proportion of samples. Moreover, mesenchymal phenotype is connected with increased expression of genome stability-related genes. These findings are being further validated in mouse model of TNBC treated with EMT inhibition.

Citation

Stankiewicz A, Topa J, Popęda M, et al. Molecular and functional consequences of epithelial-mesenchymal transition in triple negative breast cancer. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):34

BIOMEDICAL SCIENCES 2

FGFR regulates estrogen receptor action through AP1 in breast cancer

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Abstract

Introduction: Approximately 70% of all breast cancer (BCa) cases are characterized by the presence of the estrogen receptor (ER), which is a key driver of disease progression. We have previously shown that ER activity can be regulated by fibroblast growth factor receptor (FGFR) signalling in response to FGFs-originating from tumour microenvironment. This leads to resistance to endocrine therapies (e.g. tamoxifen) which are the main line of treatment for ER+ BCa. Given that application of FGFR inhibitors could overcome such a problem, it is necessary to understand the mechanism of FGFR action and select molecular markers that would enable the identification of patients that would benefit from such a therapeutic approach. Our recent analyses have shown a significant correlation between FGFR and JunB expression in BCa samples. Additional *in vitro* analyses have confirmed that FGFR activation increases Jun (components of AP1 transcription factors) protein levels. AP1 has been previously shown to interact with ER, altering its binding to chromatin. **Aim:** Thus, the aim of our study was to analyse the mechanism of FGFR-dependent regulation of the ER-AP1 interplay and to evaluate its role in the response of BCa cells to tamoxifen. **Results and Discussion:** We have shown that the FGF/FGFR-mediated increase of Jun proteins is ER-independent. The results indicate that FGF/FGFR increases the level of Jun proteins by inhibiting their degradation. Moreover, FGF treatment induces ER-JunB complex formation and increases AP1 transcriptional activity. BCa cell growth analyses show that FGF/FGFR-Jun signalling counteracts the inhibitory effect of tamoxifen. **Conclusions:** This leads to the conclusion that FGF/FGFR signalling by stabilizing the level of Jun proteins regulates the interaction and activity of ER and AP1, which may reduce the effectiveness of anti-ER treatment.

Citation

Galikowska-Bogut B, Kitowska K, Warszawski A, et al. FGFR regulates estrogen receptor action through AP1 in breast cancer. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):35

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BIOMEDICAL SCIENCES 2

Dapagliflozin affects intracellular nucleotides concentrations and cell proliferation in experimental models of endothelial cell hypoxia

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Abstract

Introduction: Dapagliflozin (DAPA), an antidiabetic drug (sodium-glucose co-transporter-2 inhibitor) inhibits renal glucose reabsorption following a decrease in blood glucose concentration. Recently, it has been found that DAPA revealed pleiotropic effects including improved cardiac energy metabolism and reduced inflammation. Some reports also demonstrated the beneficial effects of flozins on endothelial cells. **Aim:** This study aims to analyze the effects of DAPA on intracellular adenine nucleotides in endothelial cells under normoxic and hypoxic conditions. **Methods:** Mouse microvascular heart endothelial cells were cultured for 24h in a hypoxia chamber at (1%O2) or in normoxic conditions with and without 100μM CoCl2, a HIF1α stabilizer. Before CoCl2-mimicked hypoxia, the cells were pre-treated for 30 min with 100nM DAPA. Cell proliferation was evaluated by measuring cell protein using Bradford assay, while intracellular nucleotide concentration by ultra-high-performance liquid chromatography. **Results:** Hypoxia (1%O2) decreased intracellular adenosine-5'-triphosphate(ATP) concentration from 25.2±1.0 nmol/mg prot to 16.1±0.7 nmol/mg prot. Similarly, CoCl2- mimicked hypoxia decreased ATP concentration from 28.0±0.8 nmol/mg prot to 21.7±4.3 nmol/mg prot and ATP/ADP ratio from 13.1±0.5 to 11.9±0.4. In normoxic conditions, DAPA decreased the ATP concentration and ATP/ADP ratio, which may be related to increased cell proliferation. Interestingly, during CoCl2-mimicked hypoxia, DAPA did not cause an additional drop in ATP and protected against a decrease in ATP/ADP ratio as well as did not change the cell proliferation rate. **Conclusion:** In normoxia, DAPA increased endothelial cell protein levels, which was linked to a decreased ATP concentration. It seems that DAPA exerts a modulatory role in endothelial cell proliferation, facilitating the maintenance of endothelium renewal that can be beneficial in cardiovascular pathologies. These effects of DAPA on the cell proliferation and intracellular nucleotides were abolished under hypoxic conditions that may be due to the activation of adaptive mechanisms during hypoxia. However, the exact mechanisms of flozins under hypoxic conditions require further studies. The study was supported by the National Science Centre of Poland (project no. 2019/35/D/NZ3/03512).

Citation

Walczak I, Braczko A, Urbanowicz K, Kutryb-Zając B. Dapagliflozin affects intracellular nucleotides concentrations and cell proliferation in experimental models of endothelial cell hypoxia. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):36

BIOMEDICAL SCIENCES 2

The expression of bitter taste receptors in human arterial endothelium

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Abstract

Introduction: Humans can recognize five basic tastes: sweet, sour, bitter, salty, and umami. Bitter taste receptors (TAS2Rs) were primarily discovered in type II taste receptor cells in the taste buds of the tongue, where they evoke the sensation of bitter taste. TAS2Rs are G protein-coupled receptors. There are 25 functional subtypes of human TAS2Rs. Many compounds classified as bitter are their agonists, including toxins and drugs. Recent studies have shown that TAS2Rs are also present in many extraoral tissues, including upper and lower airways, gastrointestinal tissue, genitourinary system, nervous system, immune system, cardiovascular system, and cancer, where they perform various functions and may be an important therapeutic target. Within the human cardiovascular system TAS2Rs expression were determined in the heart, vascular smooth muscle cells of various vessels, and pulmonary endothelium, where they have an impact on myocardial contractility, vasodilation/vasoconstriction, and endothelial barrier permeability. **Methods:** In order to establish the expression of 25 functional TAS2Rs subtypes in human aortic and coronary artery endothelium we extracted total RNA from the cell culture of human primary aortic endothelial cell line (HAEC, ATCC – PCS-100-011), and human primary coronary artery endothelial cell line (HCAEC, ATCC – PCS-100-020). Afterward, we performed a digital PCR reaction (QIAcuity Digital PCR System) and analyzed an absolute quantification of transcripts. **Result and Discussion:** For the first time, we discovered the expression of TAS2Rs mRNA in both human cell lines. Our research will contribute to a better understanding of the presence and role of bitter taste receptors in the human cardiovascular system, and may allow for the development of future therapeutic applications. This study was financed by the grant SKN/SP/535703/2022 of the Ministry of Education and Science of the Republic of Poland.

Citation

Kochany P, Opiełka M, Słonimska P, et al. The expression of bitter taste receptors in human arterial endothelium. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):37

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BIOMEDICAL SCIENCES 2

Manual and automatic classification of circulating tumor cells in breast cancer

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Abstract

Introduction: Circulating tumor cells (CTCs) have the potential to become a biomarker of breast cancer (BC) dissemination. However, there is still a lack of standardization and normalization methods in CTCs phenotyping and morphology parametrization. Imaging flow cytometry (imFC) combined with image analysis algorithms could provide a new possibility to characterise CTCs in a high-throughput manner. Thus, the aim of this study was to design and validate a program automatically determining dimensions and phenotype of CTCs selected from peripheral blood of BC patients using imFC. **Materials and Methods:** Peripheral blood of 210 BC patients was collected, stained immunofluorescently and analysed using Amnis® ImageStream®X Mk II Imaging Flow Cytometer (Luminex) to detect CTCs. CTCs dimensions were measured manually using QuPath and automatically by newly developed Flow- metrics algorithm. Phenotypes of CTCs were defined as epithelial, mesenchymal, epithelial- mesenchymal and negative for both markers based on pan-keratins, vimentin and exclusion markers CD45 and CD31. Further, morphological features and markers fluorescence intensity were evaluated both manually and using optimized classifier and compared. **Results:** CTCs were detected and phenotyped in 58 (27.62%) of 210 blood samples using imFC, and 366 (79.57%) out of 460 CTCs were correctly recognized by Flow-metrics. 43% of CTCs was classified with the correct phenotype when 1.57 for pan-keratin and 2.75 for vimentin cut-off values for median fluorescent intensity were applied. In addition, dimensions of single CTCs, but not clustered or covered by platelets CTCs were recognized correctly, and were vastly similar to those calculated manually. **Conclusions:** To the best of our knowledge, this is one of the first studies aiming standardized and normalized characterisation of identified CTCs using automated approach. Hard-to-find global minimum of cut-off values in fluorescence intensity were thought as the main reasons of observed differences in automatic categorisation. Further improvements of algorithm is needed to allow automated identification of those cells in the future.

Citation

Wenta R, Niegowski P, Muchlińska A, et al. Manual and automatic classification of circulating tumor cells in breast cancer. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):38

CARDIOLOGY

When should anticoagulant treatment be initiated? Eosinophilic granulomatosis with polyangiitis and bleeding risk with thromboembolic risk

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Abstract

Introduction: Oral anticoagulants significantly reduce the incidence of thromboembolic complications in people with atrial fibrillation. With the coexistence of systemic vasculitis with pulmonary-renal syndromes, the decision to introduce the above-mentioned drugs may be a difficult clinical problem. **Case discussion:** A 68-year-old patient with permanent atrial fibrillation, treated with rivaroxaban, was admitted to the Department of Internal Medicine due to muscle weakness with accompanying pain and weight loss by 10 kg. In laboratory tests: anemia, increased parameters of inflammation, CPK, active urine sediment, high IgE, hypergammaglobulinemia. Abdominal ultrasonography showed renal cortical cysts. Due to the patient's reported haemoptysis, a CT scan of the chest was performed, which showed disseminated peribronchial ground glass densities. Some of them were accompanied by thickening of intralobular septa – corresponding to bleeding into the alveoli in the acute phase. Anticoagulants were discontinued. Suspected of pulmonary-renal syndrome, the patient was transferred to the Department of Nephrology. In tests: proteinuria 0.86 g/24h, pANCA positive p/bodies, creatinine 1.12 mg/dl. In a kidney biopsy: necrotizing glomerulonephritis with cellular crescents. Churg-Strauss syndrome was diagnosed and immunosuppressive treatment was started – induction with steroids and cyclophosphamide. After several weeks of therapy, the patient was referred to the hospital by a primary care physician due to unclear pain in the right lumbar/subcostal area. High levels of D-dimers were noted in follow-up examinations, and angio-CT of the chest was performed, revealing massive pulmonary embolism. After being transferred to the Department of Cardiology and restarting anticoagulants, the patient was discharged home in good general condition. **Conclusions:** Treatment of Churg-Strauss syndrome in the presented case increased the risk of thromboembolic complications. In a short time, a patient with alveolar bleeding developed a pulmonary embolism. Patients with pulmonary-renal syndromes and concomitant heart disease require close monitoring.

Citation

Jagiełło A. When should anticoagulant treatment be initiated? Eosinophilic granulomatosis with polyangiitis and bleeding risk with thromboembolic risk. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):39

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CARDIOLOGY

Role of copeptin in heart failure management: a systematic review and meta-analysis

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Abstract

Introduction: Natriuretic peptides (NPs) are established biomarkers used for diagnosis, outcome prediction and risk stratification in heart failure (HF) [1]. As NPs require adjustment for age, body mass index, renal function and other cardiovascular diseases [2], new biomarkers have been examined. Copeptin, a surrogate biomarker for arginine vasopressin, has shown promising results [3]. **Aim:** The present systematic review and meta-analysis was conducted to assess the utility of copeptin in diagnosis and outcome prediction in HF patients. **Materials and Methods:** Clinical trials describing copeptin serum concentrations in HF patients were found by means of systematic literature search in EMBASE, PubMed, Cochrane Register of Controlled Trials, and Google Scholar. Papers released by January 2nd, 2022, that met the selection criteria, were retrieved and reviewed. 19 studies, with a total of 5,562 patients, 36,7% of which were females, were included. The random effects model was applied in analyses. **Results:** Higher mean copeptin plasma concentrations were identified in HF patients than in non-HF population (43.6±46.4 vs. 21.4±21.4; MD= 20.48; 95%CI: 9.22 to 31.74; p<0.001). Pooled analysis of copeptin levels stratified by ejection fraction (EF) revealed higher copeptin concentrations in HF patients with reduced EF than in those with preserved EF (17.4±7.1 vs. 10.1±5.5; MD= -4.69; 95%CI: -7.58 to -1.81; p=0.001). Copeptin levels were higher in patients with mortality or acute HF-related hospitalization than in stable patients (31.3±23.7 vs. 20.4±12.8; MD=-13.06; 95%CI: -25.28 to -0.84; p=0.04). Greater copeptin concentrations positively correlated with mortality and were noticed in all follow-up periods (p <0.05). **Conclusions:** This meta-analysis demonstrated that elevated copeptin plasma concentrations found in HF patients are associated with an increased risk of all-cause mortality. Hence, copeptin may serve as an outcome predictor in HF patients and may potentially improve prognostic value of NPs.

Citation

Zimodro JM, Gąsecka A, Jaguszewski MJ, et al. Role of copeptin in heart failure management: a systematic review and meta-analysis. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):40

CARDIOLOGY

AngioScore: artificial intelligence for determination of SYNTAX Score

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Abstract

Introduction: SYNTAX Score evaluates the severity of a coronary artery disease (CAD) and calculates the risk associated with invasive treatment of CAD based on a coronary artery lesion characteristic. Determination of SYNTAX Score with online calculators is subjective, depends on the experience of a medical professional and requires manual input of all assessed parameters. **Aim:** We aimed to create an artificial intelligence-based tool for objective and efficient determination of SYNTAX Score. A prototype of online application *AngioScore* was developed and trained to independently assess coronary angiograms in terms of nine parameters necessary to determine SYNTAX Score (diseased segment, total occlusion, bifurcation, trifurcation, aorto-ostial lesion, severe tortuosity, length >20mm, heavy calcification, thrombus). **Materials and Methods:** Two medical students independently evaluated 100 randomly selected coronary artery lesions with *AngioScore*. First, a student marked the lesion on an angiogram. Then, *AngioScore* determined the initial SYNTAX Score. Subsequently, the student identified parameters requiring manual correction and recorded their number. Statistical analysis was performed in Microsoft Excel spreadsheet. **Results:** A total of 900 parameters were assessed with 83.7% accuracy. Parameters of coronary artery lesions located in the right coronary artery were assessed with 82.1% accuracy, in the left anterior descending artery with 85.7% accuracy and in the circumflex branch of the left coronary artery with 82.5% accuracy. 19% of coronary artery lesions were assessed fully correctly. In 34% of coronary artery lesions, 8 of 9 parameters were assessed correctly, in 31% – 7 parameters, in 16% – 6 or less parameters. Parameters that most often required corrections were: diseased segment (55%), bifurcation (33%), severe tortuosity (23%). **Conclusions:** A prototype of *AngioScore* showed promising results regarding accuracy of SYNTAX Score determination. Thus, further development of our tool may lead to a faster and more objective way to assess coronary artery lesions.

Citation

Zimodro JM, Błażejowska E, Brzeski a, et al. AngioScore: artificial intelligence for determination of SYNTAX Score. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):41

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CARDIOLOGY

Predictors of periprocedural myocardial infarction after rotational atherectomy

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Abstract

Introduction: Rotational atherectomy(RA) is more effective than traditional balloon angioplasty in inelastic, calcified plaques, however it is considered more aggressive and connected with higher risk of periprocedural complications. **Aim:** The aim of this study is to evaluate frequency and predictive factors of periprocedural MI occurring after RA. **Materials and Methods:** This was a retrospective observational study. We revised the data of 534 patients. The definition of periprocedural MI was consistent with the 4th universal definition of MI. **Results:** Periprocedural MI occurred in 45(8%) patients. These patients were more often older (74,6±8,2 vs 72±9,3% p=0,04) with SYNTAX Score(SS)>33 points (18% vs 7% p=0,01), with higher rates of no/slow flow (9% vs 1% p=0,0003). Nondilatable lesion was a less often indication for the procedure. Incidence of traditional risk factors was similar in both groups. Univariate logistic regression models revealed: male gender (OR 0,53; CI 0,29-0,98; p=0,04) SS>33 (OR 2,8; CI 1,21-6,50; p=0,02), age (OR 1,04, CI 1,00-1,07; p=0,04) no/slow flow (OR 7,85; CI 2,12-29,04; p=0,002), prior CABG (OR 0,07, CI 0,01-0,56; p=0,01) nondilatable lesion (OR 0,41; CI 0,21-0,82; p=0,01) as positive and negative predictors. Multivariable model showed that occurrence of no/slow flow (OR 6,70; CI 1,38-32,48; p=0,02), SS>33 (OR 2,95; CI 1,19-7,35; p=0,02), nondilatable lesion (OR 0,42; CI 0,21-0,85; p=0,02) prior CABG (OR 0,08; CI 0,01-0,62; p=0,02) were independent predictors of periprocedural MI. **Conclusions:** Periprocedural MI after RA was not an uncommon complication- it was present in almost every twelfth patient. Our analysis showed it was connected with female sex, older age and more severe coronary disease. Not surprisingly, occurrence of no/slow flow also increased the risk of periprocedural MI. Prior CABG and nondilatable lesion as an indication for the procedure were connected with lower risk of this complication.

Citation

Florek K, Błaszkiewicz M, Głodek D, et al. Predictors of periprocedural myocardial infarction after rotational atherectomy. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):42

CARDIOLOGY

Should Troponin still be the 'gold standard' in myocardial infarction diagnosis?

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Abstract

Introduction: Consistent with the 4. Universal Definition of Myocardial Infarction(MI) the term "acute MI" should be used in the case of acute myocardial injury with clinical features of acute myocardial ischaemia, if there is an increase and/or decrease in blood cTn concentration with at least one value above URL at the 99th percentile and at least one of the additional 5 clinical criteria is met. In patients with elevated cTn levels, clinicians must distinguish whether the patient has had non-ischaemic myocardial injury or one of the subtypes of myocardial infarction. There are other reasons for the increased cTn level- hypoxia, chronic renal failure, hypothyroidism, i.e. **Aim:** The aim of our review was to compare the competitiveness of new biomarkers in relation to cardiac troponin, which is the "gold standard" in the diagnosis of MI, especially in terms of specificity, release kinetics and sensitivity. **Materials and Methods:** This analysis was based on data published in the PubMed database after 2018 on the latest research on innovative biomarkers in the diagnosis of MI. We compared the following markers with cTn: miRNA-208 and miRNA-499, hFABP. There is also financial analysis of the potential introduction of an innovative marker for the diagnosis of MI. **Results:** All of the mentioned biomarkers were more sensitive than cTn in the first 3 hours, but each one has lower specificity. Although those markers have additional prognostic functions such as 30 days death risk or risk of Left Ventricle dysfunction. Having in mind how the globalization of its use will impact price there would not be significant differences in testing price. **Conclusions:** Troponin should still be the ,,gold standard'' in myocardial infarction diagnosis, but we should consider adding other biomarkers to the diagnostic process to have better visualization of patients prognosis.

Citation

Florek K, Mazur K, Maj J, Obszańska A. Should Troponin still be the 'gold standard' in myocardial infarction diagnosis?. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):43

EUROPEAN JOURNAL OF TRANSLATIONAL
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CARDIOLOGY

A case of atrial fibrillation and obstructive sleep apnea: breaking down the vicious circle

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Abstract

Introduction: Atrial fibrillation (AF) is the most common arrhythmia in the world, affecting approximately 2-4% of the adult population. Together with severely impaired quality of life, patients with AF have a higher risk of cardiovascular and cerebral complications. Even with proper treatment, the recurrence rate remains high, therefore, more attention is brought to AF- predisposing factors whose management could contribute to maintaining sinus rhythm. Obstructive sleep apnea (OSA) is identified as a proarrhythmic disease whose coexistence with AF potentially reduces the efficacy of its treatment (3). **Case discussion:** A 64-year-old female was referred for pulmonary vein isolation due to recurrent paroxysmal AF. The patient had AF for 9 years and underwent catheter cryoablation six years ago. Successful isolation of the right inferior pulmonary vein and the posterior wall was performed. However, two months later, the patient reported palpitations causing her to wake up in the morning. Holter monitoring showed AF and atrial flutter episodes. Because of suspected OSA, a polysomnogram was performed. The total apnea-hypopnea index (AHI) was 38.8 events per hour, consistent with the diagnosis of severe OSA. Therapy with continuous positive airway pressure (CPAP) was initiated and reduced AHI to 7.3 events per hour. In 6 months, AF episodes did not reoccur. The patient is free of symptoms and continues to use CPAP. **Conclusions:** Successful treatment of AF requires a broader approach to the patient's comorbidities and potential risk factors. OSA is a common AF predisposing agent, however, making the diagnosis can be challenging as patients with AF tend to be asymptomatic or show non-classical OSA symptoms. Consequently, close interdisciplinary work of cardiologists and sleep specialists should be considered for patients with recurrent AF. Studies investigating CPAP therapy in patients with both diseases show controversial results, therefore, more research on new management approaches is needed.

Citation

Kapačinskaitė M, Barysienė J. A case of atrial fibrillation and obstructive sleep apnea: breaking down the vicious circle. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):44

CARDIOLOGY

Single coronary artery in an elderly patient

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Abstract

Introduction: Single coronary artery (SCA) is one of the rarest congenital coronary artery anomalies, with the incidence ranging from 0.01% to 0.07%. SCA can be either an isolated anomaly or associated with other congenital abnormalities such as bicuspid aortic valve. The malignant variant of SCA is the type in which SCA is located between the aorta and the pulmonary artery. **Case discussion:** An 83-year-old woman with suspected chronic coronary syndrome (CCS) was admitted to the cardiology department for elective coronary angiography. While performing the procedure, it was difficult to cannulate the left main artery in the left aortic sinus with JL4 and JL3.5 standard catheters. The right coronary ostium was engaged with a JR4 catheter, demonstrating a superdominant right coronary artery with additional left anterior descending and circumflex arteries arising from the right coronary ostium. There were no significant atherosclerotic lesions in any of the branches. The patient received conservative treatment and was discharged from the hospital 1 day later. Based on the site of origin and anatomical distribution of the branches, SCA is classified into 2 main categories: "R," right type, and "L," left type. In 75% of the cases, the artery is located between the aorta and the pulmonary artery, leading to an increased risk of sudden cardiac death due to its compression. **Conclusions:** An anomalous course of coronary artery should not be excluded in the diagnostic process even in elderly patients, who have been asymptomatic for most of their life. Medical practitioners performing coronary catheterization are ought to be capable of facing the challenges that may arise during the procedure due to the occurrence of the previously undiagnosed coronary artery anomaly.

Citation

Jakubik O, Putowska P, Gąsecka A, Pietrasik A. Single coronary artery in an elderly patient. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):45

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):46

HEMATOLOGY

Bilateral renal artery thrombosis in patient with anti-phospholipid syndrome in the course of SLE

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Abstract

Introduction: Anti-phospholipid syndrome (aPL) is an autoimmune disease, which can cause frequent vascular thrombosis and/or miscarriages. The increased risk of thrombosis is linked to the presence of anti-phospholipid autoantibodies (aPL-Abs) in serum. Even though up to 40% of patients with systemic lupus erythematosus (SLE) would be positive for the aPL-Abs, only half of those will develop thrombosis and/or experience miscarriages. Here we report an unusual case of a female patient with bilateral renal artery thrombosis caused by aPL in the course of SLE. **Case discussion:** 55-years old patient with SLE was admitted to the hospital with right side mid-abdominal pain and rapidly developing anuria. She remained anuric following bladder catheterization and infusion of 4 liters of fluids. Due to persistent anuria and elevated serum creatinine was transferred to the nephrology ward with the diagnosis of acute kidney injury. Abdominal CT angiography revealed a tight narrowing or an obstruction of an proximal portion of the right renal artery, critical stenosis of the left renal artery, and features of ischemia in the right kidney. Arteriography revealed 15mm-long stenosis of proximal segments of both renal arteries. Bilateral percutaneous transluminal angioplasty was performed followed by stent implantation. Follow-up ultrasound 5 days following the procedure showed no abnormalities in renal arteries and the kidney structure. To diagnose the cause of bilateral renal thrombosis the broad diagnostic panel was taken. aPL-Abs were identified and considered the most likely cause of bilateral artery thrombosis. **Conclusions:** aPL-Abs – related embolism/thrombosis can occur anywhere in the circulation. Bilateral renal artery thrombosis, if not diagnosed early and if not treated promptly, may result in irreversible kidney failure within days. Patients with this condition need an early angioplasty to enable renal function recovery. Our case reports points on the need for renal imaging in cases of otherwise unexplained AKI with rapidly developing anuria.

Citation

Marta Jutrzenka. Bilateral renal artery thrombosis in patient with anti-phospholipid syndrome in the course of SLE. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):46

HEMATOLOGY

Diagnostic difficulties and delays in a pregnant patient with High-Grade B-cell Lymphoma, Not Otherwise Specified

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Abstract

Introduction: High-Grade B-cell Lymphoma, Not Otherwise Specified (HGBL, NOS), is described in the 2022 WHO lymphoma classification as aggressive mature B-cell lymphomas with medium-sized or blastoid cells which do not fall under the other precise lymphoma classes. This umbrella statement includes the previous entity, “B-cell lymphoma, unclassifiable, with features intermediate between Diffuse Large B-cell Lymphoma and Burkitt Lymphoma” that is perhaps a more precise designation for the case described. **Case report:** A 32-year old pregnant woman underwent a routine thyroid ultrasound for pre-existing Hashimoto’s thyroiditis. An incidental finding of a thyroid lesion led to a biopsy showing an area of intense lymphocytic infiltration. However, there were no further diagnostic tests until another biopsy from the thyroid lesion, 4 months later, highly suggestive of lymphoma. Perhaps due to the pregnancy and the subsequent delivery, the patient was lost to follow-up until 2 months later, when yet another biopsy from the thyroid gland was performed. This sample, however, showed no atypical cells, and no clonality of lymphocytes in cytological and immunohistochemistry evaluations. A CT examination performed a few months later, revealed a 10mm lesion on the pancreas. She then developed lesions in both breasts, which were overlooked as possible mastitis, despite no signs of inflammation, as she was breastfeeding at the time. There was a significant decrease in her quality of life due to severe abdominal pain, and fatigue. Eventually further diagnostic imaging was conducted upon her admission to the hospital for pancreatitis, which showed lesions in both breasts, and the pancreas. Biopsies showed hyperplasia of medium-sized B-cells, and the typical Burkitt lymphoma pattern of a “starry sky”. The samples were positive for MYC (100%), BCL2, and BCL6, and had a high Ki67 (99%). The FISH analysis showed an usual incidence of both Bcl2 and Bcl6 rearrangement, without Myc rearrangement, resulting in the HGBL, NOS diagnosis. Treatment was started using the R-CODOX-M/R-IVAC protocol, with the future possibility of an autologous haematopoietic cell transplant. **Conclusions**: This case elucidates the need for more research into the wide range of lymphomas currently categorized as HGBL, NOS, as well as, the dangers of overlooking symptoms in pregnant patients.

Citation

Razdan S , Baran K. Diagnostic difficulties and delays in a pregnant patient with High-Grade B-cell Lymphoma, Not Otherwise Specified. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):47

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):48

HEMATOLOGY

Song of Fire and Ice – is it possible to survive with hemoglobin 1.7?

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Abstract

Introduction: Mixed autoimmune hemolytic anemia (MAIHA) is a rare (<1/1 000 000) type of anemia in which there is the presence of both warm and cold autoantibodies. Because of that the course of the disease can be quite unpredictable. **Case report:** A 50-year-old female patient was admitted to the emergency room due to impaired consciousness, jaundice, and life-threatening anemia. The family of the patient reported skin changes – livedo reticularis and escalating weakness that started a few days before. A head CT revealed changes like in brain edema. Laboratory tests showed signs of hemolysis (LDH 1828U/L, BIL 6.88mg/dl) with very low hemoglobin level (Hb 1.7g/dl) and isolated AST and ALT increase with other liver enzymes staying within the normal range. Direct antiglobulin test for autoantibodies IgG and IgM was performed – the results were positive for both. The diagnosis was made – mixed type autoimmune hemolytic anemia. Aggressive treatment with rituximab, bortezomib, cyclophosphamide, IVIG, and plasmapheresis was started. Meanwhile, CT and MR of the abdomen were performed which revealed thrombosis of the left portal vein that most probably was a result of a hypercoagulable state associated with severe hemolysis. The patient's condition significantly improved and on the 9th day blood transfusions were stopped. On the 15th day of hospitalization the patient was discharged from the hospital after neurological consultation – no neurological deficits were noted. **Conclusion/discussion:** This case shows that it is possible to survive and return to health without any neurological deficits after an episode of very severe anemia. Also, it is worth mentioning that brain edema wasn't known to be a symptom of autoimmune hemolytic anemia hence it is important to keep an open mind during diagnosis of such rare and complex diseases such as MAIHA.

Citation

Siuciak P, Zarzycka E. Song of Fire and Ice – is it possible to survive with hemoglobin 1.7?. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):48

HEMATOLOGY

A unique case of atypical haemolytic uremic syndrome

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Abstract

Introduction: Atypical haemolytic uremic syndrome (aHUS) is a chronic disease with complement- dependent thrombotic microangiopathy (TMA).The typical clinical picture of aHUS is thrombocytopenia, microangiopathic haemolysis and parameters indicative of internal organ damage (1). **Case discussion:** A 37-year-old female patient with hypertension diagnosed for 3 months, without other chronic diseases, admitted to hospital because of increasing peripheral oedema, decreased urine output. Laboratory tests: creatinine 16 mg/dl, urea 220 mg/dl, normocytic anaemia with haemoglobin 9 g/dl. Urgent haemodialysis with a temporary catheter in the right internal jugular vein was performed. On the day of admission, a positive PCR test for COVID-19 was confirmed. The patient was asymptomatic for COVID-19, with involvement of 15% of the pulmonary parenchyma found on chest CT scan. After isolation, due to persistent anuria, a renal biopsy was performed, from which a diagnosis of acute thrombotic microangiopathy and secondary focal segmental glomerular sclerosis was made. Throughout the hospitalisation, platelet count was normal, no schistocytes were found in the peripheral blood smear, haptoglobin levels were normal, LDH levels were elevated. ADAMTS13 activity at 53%. Antibodies to factor H at 10.78 AU/ml, which was considered a negative result. Genetic testing revealed a TGTGT haplotype in copy 1 of the complement component H (CFH) gene, possibly predisposing to the development of aHUS. The patient was started on eculizumab treatment, which was discontinued after three months as there was no improvement in renal function. **Conclusions:** SARS-CoV2 infection may be a trigger for aHUS in individuals with a genetic predisposition.

Citation

Smuniewska Z. A unique case of atypical haemolytic uremic syndrome. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):49

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AND CLINICAL MEDICINE 2023;6(Suppl.3):50

ENDOCRINOLOGY

Influence of radioiodine therapy on parameters of oxidant/antioxidant balance in patients with Graves' disease

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Abstract

Introduction: Oxidative stress is an important agent in tissue damage induced by hyperthyroidism. Some patients with increased thyroid activity are diagnosed with Graves' disease. Aim: To determine whether radioiodine therapy has a benefit effect on the oxidant/antioxidant balance in patients with Graves' Disease. Materials and Methods: We studied 34 patients with Graves' disease. 12 adult volunteers were studied as a control group. All the patients were treated unsuccessfully by antithyroid drugs. The effective half-life measured by the use of radioiodine uptake (RAIU) after 24 and 48 h was more than 3 days at the time of treatment. Malondialdehyde (MDA) as a marker of oxidative stress, glutathione (GSH) and glutathione peroxidase (GPx) activity as a parameters of antioxidant system, were evaluated in the investigated groups before and 6 months after radioiodine therapy. The serum fT4, fT3, TSH, TSHRAb were evaluated before and monthly up to 12 months after RIT. Thyroid ultrasound, and thyroid scan with thyroid RAIU were done before and after 12 months of radioiodine therapy. The activity dose ranged between 280 and 600 MBq. The absorbed dose ranged between 120 and 200 Gy. Follow up control was done every 4 weeks. **Results:** Hyperthyroidism causes a significant increase in MDA level ($P< 0.05$), with significant decrease in GPx activities ($P< 0.05$) and GSH level, compared with controls subject. A significant decrease of MDA level with significant increase of GSH level and GPx activities was observed after 6 months of radioiodine therapy in patients who achieved euthyroidism. In 22 patients euthyroidism was achieved, 6 patients received L- thyroxin replacement therapy due to hypothyroidism, 3 patients were in subclinical hyperthyroidism, and hyperthyroidism persisted in 3 patients. Thyroid volume reduced to about 47% (average). **Conclusions:** Results confirm the imbalance of the antioxidant/oxidant status in patients with Graves' disease. Radioiodine therapy improved these balances.

Citation

Zawadzka A, Piszcz W, Obrycka M. Influence of radioiodine therapy on parameters of oxidant/antioxidant balance in patients with Graves' disease. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):50

ENDOCRINOLOGY

The case of a patient with accidentally discovered chronic pancreatitis accompanied by a pancreatic pseudocyst

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Abstract

Introduction: Chronic pancreatitis is a disease in which progressing and irreversible fibrosis of the pancreatic parenchyma leads to its atrophy and progressing development of both endocrine and exocrine insufficiency with prevalence around 50 cases per 100 000 habitants. In Poland a higher number of new cases is observed each year. The main risk factors of developing chronic pancreatitis later in life are based on the acronym TIGAR-O (toxic, idiopathic, genetic, autoimmune, recurrent and obstructive). In general those affected by CP complain about recurrent abdominal pain, which most commonly lasts up to 10 days. In more advanced stages of the disease digestion and absorption disorders as well as diabetes can be observed. **Case discussion:** 54-year-old man suffering from fatty liver disease has been referred by his GP for a regular abdominal ultrasound. At the time he wasn't presented with any symptoms. The only thing which he observed was that he intentionally lost 6 kg of weight during the last 2 months. During the most recent examination the echogenicity and the size of the liver were normal, but a solid-cystic mass (31x24 mm) in the pancreatic body was identified. The pancreas was described as enlarged and heterogeneous within the pancreatic body. Meanwhile lab tests showed normal serum levels of ALT, ASP, GGTP, ALP, amylase, lipase and CRP. The patient was then referred for a urgent abdominal CT as well as MRCP. Pancreatic mass was identified as a cyst. Calcifications inside the whole pancreatic parenchyma, main pancreatic duct and distal pancreatic ducts dilations were described. The patient is now being prepared for further tests evaluating the endocrine and the exocrine pancreatic function. He has an elevated level of MCV, which may suggest some kind of a problem with digestive absorption. **Conclusions:** The diagnosis of CP can be really challenging, especially during early stages of the disease and when the symptoms presented by the patient don't necessarily correlate with the tests results. This particular situation happens in our described patient. It's also essential to carefully differentiate CP from other diseases which may look really alike, including pancreatic cancer. The management and the treatment of CP depends strictly on the etiology of the disease. The standard treatment is very complex and usually requires pancreatic enzymes, vitamins and minerals supplementation, treating hyperglycemia and diabetes with insulin and non-insulin medications, adequate management of comorbidities with paying special attention to the cardio-vascular diseases, dietary counseling, pain management as well as surgical and endoscopic procedures. It's important to further investigate potential pathways for diagnosing CP early and how to minimize the risk of developing pancreatic cancer in a person living with CP.

Citation

Śliwa K, Arłukowicz T. The case of a patient with accidentally discovered chronic pancreatitis accompanied by a pancreatic pseudocyst. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):51

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):52

ENDOCRINOLOGY

The MEN Syndrome. Where is the End?

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Abstract

Introduction: Multiple endocrine neoplasia type 2A (MEN2A) is a hereditary syndrome with a strong genotype–phenotype relationship, caused by *RET* oncogene mutations. MEN2A includes medullary thyroid carcinoma (MTC), unilateral/bilateral pheochromocytoma, and in rare cases, primary hyperparathyroidism. MTC is related to high penetrance (the risk of MTC recurrence is about 34-50% [1-3]) and is the major cause of mortality [4-6]. The risk of developing contralateral pheochromocytoma in the residual adrenal gland also is high (50%) [4,7,8]. **Case report:** At 28 years age, the patient had a total thyroidectomy and central compartment lymph node dissection due to MTC and then she was diagnosed with MEN2A for the first time. Currently, she is taking thyroxine replacement therapy. Due to pheochromocytoma, 5 years after thyroidectomy, the patient underwent a right adrenalectomy. Post-surgery adrenal hormone therapy was unnecessary. The patient's father, sister, nephew (sister's son), and son have all been diagnosed with MEN2A. 22 years later (at 50 years of age) woman presented to the Endocrinology department with complaints of hypertension and an incidental CT scan findings of foci in the left adrenal gland. The patient's blood test showed elevated levels of metanephrine (1.66 nmol/l (0-0.33 nmol/l)), and normetanephrine (9.72 nmol/l (0-1.07 nmol/l), indicating the recurrence of pheochromocytoma. An abdomen MRI revealed three foci in the left adrenal gland. In addition, relapse of MTC was also confirmed following the detection of an enhanced calcitonin concentration (7.7 pmol/l (0.15-2.28 pmol/l). The neck ultrasonography revealed pathological lymph nodes on the left side of the neck in zone IV. Normal calcium-phosphorus metabolism and parathyroid hormone levels excluded parathyroid gland pathology. First, the left adrenalectomy is planned, then the neck lymphonodectomy. But is that the end? **Conclusions:** A high risk of MEN2A tumors recurrence emphasizes the significance of long-term postoperative surveillance for patients with MEN2A syndrome.

Citation

Jakubauskaitė S, Šimonienė D. The MEN Syndrome. Where is the End?. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):52

ENDOCRINOLOGY

The evaluation of radioiodine therapy outcome in patients with non-toxic nodular goiter

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Affiliation

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Abstract

Introduction: There is no consensus regarding the optimum treatment of benign non-toxic goiter. Randomized studies have shown that levothyroxine has poor evidence of efficacy and is inferior to radioiodine therapy regarding goiter reduction. **Aim:** Evaluation of the short term efficacy of radioiodine therapy to reduce thyroid volume with minimal risk of hypothyroidism in patients with non-toxic nodular goiter. **Material and Method:** We treated 490 patients, aged 18-78 years; 88% female and 12% male; RAIU was ranged between 18-49%, and thyroid volume ranged between 40-190ml, effective half-life was more than 3 days at the time of treatment. Qualification of these patients were based on normal levels of serum fT3, fT4, TSH and characteristic appearance on thyroid scans and ultrasound. Malignant changes were excluded in all nodules by fine needle aspiration biopsy. The activity dose was between 280-800 MBq. The absorbed dose ranged between 180 and 260 Gy, and was proportional to thyroid volume. Thyroid ultrasonography and thyroid scan with RAIU at 24 and 48-hrs was done before and after 12 month of radioiodine therapy. Follow up control for the evaluation of fT3, fT4 and TSH was done every 6 weeks. **Results:** After 12 months of radioiodine therapy a mean thyroid volume reduction of 48% was achieved. Euthyroidism persist in 92% of patients, and hypothyroidism develop in 8% of patients. All patients were highly satisfied. **Conclusions:** Radioiodine is non-invasive method for reduction of large non-toxic goiter and should not be restricted to elderly patients, or to patients with high operative risk, but should be used as first choice in every patient. The reduction of thyroid volume with low percent of hypothyroidism, were due to accurate measurement of administered activity, relatively high effective half-life and well organized follow up.

Citation

Piszcz W, Zawadzka A, Obrycka M. The evaluation of radioiodine therapy outcome in patients with non-toxic nodular goiter. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):53

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AND CLINICAL MEDICINE 2023;6(Suppl.3):54

INTERNAL MEDICINE 1

The first dual kidney transplant in Lithuania: a case report

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Abstract

Introduction: Renal transplantation is the gold standard method for managing end-stage renal disease. Unfortunately, there are alarming trends of growing demand for transplantation and shortage of available organs. Dual kidney transplantation is a viable option to expand the organ donor pool by using marginal kidneys that would be unsuitable as a single allograft. We report the first case of the dual kidney transplant in Lithuania. **Case discussion:** A 66 years old man with an end-stage renal disease caused by diabetic- hypertensive nephropathy underwent dual kidney transplant in August 2022. Decision to perform dual transplantation was made because of the small size of compatible donor kidneys. However the postoperative course was complicated. In October 2022 ureterohydronephrosis of the right transplanted kidney and urinoma compressing the right ureter was detected, requiring stenting of ureter and drainage of the urinoma. After that the patient was soon diagnosed with urosepsis, which was treated with intravenous antibiotics and percutaneous nephrostomy of the right graft. Unfortunately, a month later sepsis recurred. Therefore, due to the risk of infections, it was decided to remove the ureteral stent. Subsequently performed pelvic CT scan showed persistent urostasis of the right transplanted kidney and a mid-ureteral stricture. In January 2023, after taking into account the high risk of reinfections and the location of ureteral stricture, the decision was made to remove the right graft. **Conclusions:** Dual kidney transplantation is a demanding surgical procedure, related with certain medical and surgical complications. Nevertheless, studies show promising long term graft and patient survival rates. Therefore a substantial potential of dual kidney transplant for reducing transplant waiting time should not be underestimated.

Citation

Meškėlaitė A. The first dual kidney transplant in lithuania: a case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):54

INTERNAL MEDICINE 1

Ticagrelor downregulates the expression of proatherogenic and proinflammatory miR125-b compared to clopidogrel: a randomized, controlled trial

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Abstract

Introduction: Platelet P2Y12 antagonist ticagrelor reduces mortality after acute myocardial infarction (AMI) compared to clopidogrel, but the underlying mechanism is unknown. Because activated platelets release proatherogenic and proinflammatory microRNA-125b (miR-125b) [2] we hypothesized that the release of miR-125b is more efficiently inhibited by ticagrelor compared to clopidogrel. **Aim:** Prove that release of miR-125b is more efficiently inhibited by ticagrelor compared to clopidogrel. **Materials and Methods:** We compared miR-125a, miR-125b and miR-223 concentrations and these miRNAs procoagulant activity in plasma of patients after AMI treated with ticagrelor or clopidogrel. After percutaneous coronary intervention, 60 patients with first AMI were randomized to ticagrelor or clopidogrel. The concentration of miR-223, miR-125a-5p, miR-125b was evaluated in platelet-depleted plasma using quantitative polymerase chain reaction at randomisation, after 72 hours and 6 months of treatment. Multiple electrode aggregometry using ASPI test and the ADP test was used to determine platelet reactivity in response to dual antiplatelet therapy. **Results:** The expression of miR-125b was higher in patients with AMI at all timepoints from 24 hours to 6 months, compared to healthy volunteers (p=0.001). The expression of other miRNA subtypes did not differ between AMI patients and healthy volunteers. In patients who switched from clopidogrel to ticagrelor, expression of miR-125b decreased at 72 hours (p=0.007) and increased back to baseline at 6 months (p=0.005). The expression of miR-125a-5p and miR-223 was not affected by the switch from clopidogrel to ticagrelor. **Conclusions:** Ticagrelor attenuates the increase of mir-125b concentrations in plasma after acute myocardial infarction compared to clopidogrel. The ongoing release of mir-125b despite antiplatelet therapy might explain recurrent thrombotic events after AMI and worse clinical outcomes on clopidogrel compared to ticagrelor.

Citation

Błażejowska E, EyiletenC, Postuła M, et al. Ticagrelor downregulates the expression of proatherogenic and proinflammatory miR125-b compared to clopidogrel: a randomized, controlled trial. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):55

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):56

INTERNAL MEDICINE 1

Comparison of the application of comprehensive geriatric assessment tools between urgent and elective hospitalized patients

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Abstract

Introduction: Comprehensive geriatric assessment is the process of identifying and evaluating a frailty syndrome by examining individual elements of daily functionality. Its performance in elderly patients, both in outpatient and hospital conditions, allows to improve the quality of life and its length, bringing benefits in the long term. Due to the multimorbidity of elderly patients, as well as the multiple reasons for hospitalization of people in this age group, there is a need to check whether frailty assessment tools are useful regardless of the reason for admission to the hospital. **Aim:** The aim of the study is to determine whether the features of frailty syndrome are associated with elderly patients, regardless of their current health status, and the tools used for comprehensive geriatric assessment can be used in patients hospitalized urgently to a comparable extent as in patients admitted to the hospital electively. **Materials and Methods:** An assessment was carried out of 39 patients hospitalized at the Geriatrics Clinic of the University Hospital No. 1 in Bydgoszcz in the period from July 2022 to January 2023, taking into account the reasons for hospitalization and the results of selected geriatric scales. **Results:** 10 patients were admitted to the Department on a scheduled basis for a comprehensive geriatric evaluation. A relatively frequent deviation limiting their daily functioning were depressive and anxiety disorders, which limited their cognitive functioning to a mild degree. Persons admitted to the hospital in an acute mode (n=29) were characterized by many factors significantly limiting everyday functioning, which did not limit cognitive functioning to a statistically significant extent. **Conclusions:** The results of the analysis suggest that the geriatric scales used for the overall assessment are used in clinical practice regardless of the mode of admission. However, further research on a larger number of subjects is needed.

Citation

Husejko J, Kozakiewicz M. Comparison of the application of comprehensive geriatric assessment tools between urgent and elective hospitalized patients. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):56

INTERNAL MEDICINE 1

Medication non-adherence among patients with rheumatic diseases: the bad, the ugly and the good?

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Abstract

Introduction: Chronic rheumatic diseases are a group of autoimmune inflammatory disorders that involve multiple organ systems and are associated with a higher risk of mortality, morbidity, and impaired quality of life. Currently available treatment may help to control disease activity; however, its efficacy largely depends on medication adherence. This has been shown to vary between 9.3% and 94% in patients with rheumatic diseases. Moreover, adherence can be influenced by numerous factors such as sociodemographic situation, illness perception, beliefs about medications, and comorbidities. **Aim:** To evaluate medication adherence in Lithuanian patients with chronic rheumatic diseases and to identify factors associated with poor compliance. **Materials and Methods:** The questionnaire was shared in online groups for people with chronic rheumatic diseases. The survey consisted of questions regarding sociodemographic factors, type of disease and medicines, self-reported adherence, reasons for skipping medications, and suggestions for improvement. The survey also included a validated 5-item version of the Compliance Questionnaire for Rheumatology (CQR5) and Hospital Anxiety and Depression Scale (HADS). The data was systemized and interpreted using *Microsoft Excel* and *R Commander*. **Results:** Among 208 participants who completed the survey, 99 (47,6%) were identified as low adherents. The most common reasons for skipping doses were forgetfulness (36,2%) and absence of symptoms (18,1%). Based on HADS, signs of anxiety and depression were noted in 50,5% and 43,7% of respondents, respectively. Increased levels of anxiety and depression were statistically associated with poor adherence (p=0,027). The most commonly proposed solutions to improve compliance were a medication reminder app (34,4%) and a less frequent dosing regimen (33,0%). **Conclusions:** The survey has shown that almost every second participant with rheumatic disease is at risk for low medication adherence. This can be influenced by psychological distress which should be targeted to improve compliance.

Citation

Kapačinskaitė M, Miltinienė D. Medication non-adherence among patients with rheumatic diseases: the bad, the ugly and the good?. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):57

EUROPEAN JOURNAL OF TRANSLATIONAL
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INTERNAL MEDICINE 2

Long term hereditary angioedema prophylactics – case study

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Abstract

Introduction: Hereditary angioedema (HAE) is an autosomal dominant disorder caused by deficiency of C1 esterase inhibitor protein type 1 or in type 2, C1 inhibitor dysfunction with normal serum levels (HAE-2). Long-term treatment to prevent further attacks involves regular administration of medications to reduce the number of HAE attacks. With the severe course of the disease, potentially life-threatening during attacks, it is expedient to use long-term prophylaxis of HAE flare-ups, which until September 2021 in Poland was limited. Only off-label drugs were available with a significant limitation in efficacy: antifibrinolytic drugs and androgens. Used in other countries as a preventive treatment, plasma C1-INH is approved for self-administration in the EU, but is not reimbursed in Poland. **Case discussion:** In September 2014, a 17-year-old female patient presented to the allergy clinic for further diagnosis and follow-up treatment of HAE. The main reasons for presenting to the clinic were frequent laryngitis and bloating abdominal pain. Diagnosis of HAE was made at the age of 4 years. A determination of the C4 component of the complement system and the level of C1q inhibitor was performed. The patient was initially treated with C1-INH concentrates for HAE attack interruption, and tranexamic acid was used for long-term off-label prophylaxis. With the use of such long-term prophylaxis, abdominal symptoms and life-threatening symptoms of the patient continued at a similar level and others occurred sporadically. After lanadelumab treatment, there was an almost 100% reduction in the number of HAE flare-ups during the 12 months of therapy. Only 1 attack occured during the analyzed year, with the previously found average of 54 attacks per year. **Conclusions:** Personalized lanadelumab therapy, for patients with severe and frequent HAE flare-ups is highly effective for long-term prevention. It removes patient limitations in fulfilling social roles and improves patients' quality of life. Reduces the stress and costs associated with providing inpatient and outpatient care for patients.

Citation

Gęsicki A, Kozłowski M, Żurawska K, et al. Long term hereditary angioedema prophylactics – case study. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):58

INTERNAL MEDICINE 2

Adenoid cystic carcinoma of the main carina – a rare cause of chronic cough

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Abstract

Introduction: Although cough is a common symptom of lung cancer, the latter is not a common reason of chronic cough (CC). Adenoid cystic carcinoma (ACC) is a low-grade, rare type of lung cancer (less than 1% of all lung cancers) arising from the bronchial wall glands. Therefore, it is infrequently taken into consideration as a cause of CC. We report a case of patient with CC who has been diagnosed with ACC. **Case Report:** A 54-year-old woman, ex-smoker was admitted to the Department of Internal Medicine, Pulmonary Diseases and Allergy with a history of 12 months productive CC. Medical history included arterial hypertension, osteoarthritis and history of 25 pack-years of smoking. Physical examination revealed no abnormality. The chest X-ray was normal. In spirometry moderate irreversible airway obstruction was found and eosinophilia was documented in induced sputum analysis. Thus, non-allergic bronchial asthma was preliminary diagnosed and inhaled corticosteroids with LABAs were introduced. Due to smoking history chest CT was performed revealing a slight swelling of main carina and small tree in bud opacities in both lungs. During bronchoscopy with endobronchial ultrasound (EBUS) the rough swelling of main carina was confirmed and biopsy was performed. Additionally bronchoalveolar lavage fluid and EBUS-TBNA of the tumour and subcarinal (N7) lymph node were done. Pathologic examination confirmed ACC, while there were no pathological findings in the N7 lymph node. BAL was negative for any bacterial culture. FDG-PET/CT did not reveal enhanced FDG uptake neither in the main carina lesion nor in other tissues. Patient was referred for surgery. **Conclusions:** In conclusion, a thorough differential diagnosis is crucial in patients with CC. Moreover, in adults with cough and smoking history lung cancer should be considered in the differential diagnosis. Adenoid cystic carcinoma, a rare type of lung cancer, may also be a reason of CC.

Citation

Banaszek Ł, Rudzińska M, Dąbrowska M. Adenoid cystic carcinoma of the main carina – a rare cause of chronic cough. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):59

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):60

INTERNAL MEDICINE 2

A new approach to diagnosing Gastroesophageal Reflux Disease – fractal analysis and wavelet transform of pH-metry

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Abstract

Introduction: This work describes a new approach to diagnosing Gastroesophageal Reflux Disease when performing 24-hour pH-metry tests. Up to this point, the *DeMeester* method was used as a standard. **Aim:** The aim of the study was to determine a new method for analyzing pH-metry courses, based on digital signal analysis tools. This new approach should provide results not worse (ideally – better) than the classic approach and most importantly – could be used in automated diagnostic medical systems, based on artificial intelligence (since the classic approach is not suitable). **Discussion:** In the study 24 pH-metry was performed on 20 patients (of different age and sex), out of which 16 patients were diagnosed with GERD (based on the classic approach) and 4 were healthy. Then pH-metry courses underwent a digital signal analysis, with the use of Wavelet Transforms (with different base wavelets, and parameters). Close signal decomposition allowed for determining characteristic parameters of unhealthy pH-courses and solutions to distinguish sick and healthy patients. Then the use of Fractal Analysis – again, to distinguish characteristic features of healthy and unhealthy pH-courses. Both original methods provided unique data and insight into the characteristics of pH-metry courses. With this approach, it was possible to develop two efficient computer methods to classify healthy and sick patients based on the pH measurement data alone. The Wavelet transform method provided a sensitivity value of 93.33%, with 75.00% specificity. The results of the fractal analysis confirmed that the tested signals have features that enable automatic classification between healthy and sick patients. **Results:** The results of the research confirmed the thesis that it is possible to determine new methods to diagnose GERD, that are less time consuming than the classic approach and can be used in automated diagnostic medical systems.

Citation

Tojza PM, Doliński Ł, Janiak M. A new approach to diagnosing Gastroesophageal Reflux Disease – fractal analysis and wavelet transform of pH-metry. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):60

INTERNAL MEDICINE 2

Antinuclear antibodies as a negative predictive factor for renal function in IgA nephropathy

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Abstract

Introduction: IgA nephropathy (IgAN) is a type of glomerulonephritis characterised by the accumulation of IgA in the glomeruli [1], while the antinuclear antibody (ANA) is a defining feature of autoimmune connective [2]. Both antibodies are causing inflammation that damages the kidneys and other tissues [3,4]. **Aim:** The purpose of the study is to evaluate the predictive effect of the presence of ANA antibodies in the course of IgA nephropathy as a prognostic factor for renal function. Materials and Methods: A total of 16 individuals were tested for ANA antibody level during IgAN disease occurrence in the Clinical Department of Nephrology in Voivodeship Specialised Hospital in Olsztyn. Creatinine levels, proteinuria levels and the level of ANA antibodies were determined at the time of admission to hospital, creatinine levels and proteinuria were assessed again 6 months after admission. Patients were divided into two groups ANA+ (titre of more than 1:160) and ANA- (titre less than 1:40). **Results:** Four individuals were found to have ANA antibodies titre of more than 1:160. After 6 months statistically significant differences were present in the following variables: level of creatinine ANA+ 3,75 mg/dL (SD, 3,42 mg/dL) and level of creatinine ANA- 1,28 mg/dL (SD, 0,62 mg/dL) ($p < 0,03$), change of creatine level in blood ANA+ 1,45 mg/dL (SD, 2,02 mg/dL) and change of creatinine level in blood ANA- -0,05 mg/dL (SD, 0,26 mg/dL) ($p<0,03$), change of eGFR ANA+ -27,92 mL/min/1.73m2 (SD, 38,87 mL/min/1.73m2) and change of eGFR ANA- 2,45 mL/min/1.73 m2 (SD,14,14 mL/min/1.73m2) ($p<0,05$). **Conclusions:** Presence of ANA antibodies during IgAN might be a negative predicting factor for renal function in a six-month time.

Citation

Smuniewska Z. Antinuclear antibodies as a negative predictive factor for renal function in IgA nephropathy. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):61

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):62

NEUROSCIENCE & NEUROSURGERY

Comparative anatomy of the human neuromuscular junction

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Abstract

Introduction: Spinal muscular atrophy (SMA) is a congenital disorder that causes degeneration of motor neurons and consequent muscle weakness. In SMA, the first pathological changes are known to occur at the neuromuscular junction (NMJ), which normally consists of a motor nerve terminal, muscle endplate, and terminal Schwann cells. This tripartite structure undergoes progressive alterations as SMA advances, leading to progressively greater levels of physiological dysfunction. Recent evidence has shown that morphology as well as mechanism of SMA show significant differences between human and mouse models. **Aim**: Thus, in this research a previously validated software tool 'NMJ morph' was utilised to explore the morphology of 240 peroneus brevis NMJs in three human and mouse subjects across 21 variables. Human muscle samples were obtained from patients undergoing lower limb surgery. **Results and Discussion:** Statistically significant differences were observed in axon diameter, nerve terminal perimeter, nerve terminal area, total length of branches, average length of branches, acetylcholine receptor perimeter, acetylcholine receptor area and area of synaptic contact. As previous studies have identified a difference in the progression of SMA in lower and upper limbs, the second part of the comparative analysis focused on exploratoin of variability in NMJ morphology between lower and upper limb muscles. The results showed a statistically significant difference in axon diameter, acetylcholine receptor perimeter, acetylcholine receptor area, and area of synaptic contact. The findings suggests that a discrepancy in NMJ morphology between human and mice – knowledge that could help with future translation of pharmacological solutions from murine to human models. Additionally, the differences in structure observed between lower and upper limb muscles might act as a theoretical framework upon which future effective therapeutic approaches might be implemented in the upcoming years.

Citation

Łukaszuk A, Jones R. Comparative anatomy of the human neuromuscular junction. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):62

NEUROSCIENCE & NEUROSURGERY

Neurosurgical treatment for drug-resistant epilepsy

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Abstract

Introduction: Epilepsy is a neurological disorder caused by abnormal neuronal activity in the brain. Epileptic seizures can manifest itself in different ways: from mild and nearly undetectable to long periods of vigorous shaking. Unfortunately current pharmacological treatment is not always effective. At the present moment it is believed that around 33% patients have drug-resistant epilepsy. The newest neurosurgery techniques offer a variety of possibilities which can be used in those cases. **Aim:** This study reviews the current diagnostic and therapeutic neurosurgical options for this disorder such as deep brain stimulation, laser interstitial thermotherapy and many others. The aim of this review is to show the variety of the newest methods and their uses, safety and clinical effectiveness. **Materials and Methods:** Data were collected from Pubmed, Web of Science and Scopus for the period of 2019-2023 through searching of these keywords: "neurosurgery" and "drug resistant-epilepsy''. **Results:** An increasing number of studies have shown that neurosurgical treatment plays an important role in the drug-resistant epilepsy. Moreover, those methods help in controlling seizures and improving patients' quality of life. It is possible to achieve the remission and even recovery of drug-resistant epilepsy. The newest techniques are also minimally invasive which makes therapy more comfortable for a patient. **Conclusions:** Newest neurosurgical methods are great solution for patients with drug-resistant epilepsy. They allow to precisely localise the epileptogenic focus and then use the best option for treatment. It causes the therapy more personalised which could bring the more advantages than the other options.

Citation

Miazga D. Neurosurgical treatment for drug-resistant epilepsy. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):63

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NEUROSCIENCE & NEUROSURGERY

Development of multiple sclerosis in patient with antenatal brain damage – case report

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Abstract

Introduction: Multiple sclerosis (MS) is the most common demyelinating central nervous system (CNS) disease. As MS can cause wide range of symptoms its diagnostics is challenging. Antenatal brain damage can cause various types of symptoms that decreases quality of life and functional independence. As both conditions manifest with neurological symptoms it is crucial to notice new signs to identify MS early, so patients receive appropriate treatment. **Case description:** A 28-year-old woman, with a known history of antenatal brain damage, external hydrocephalus, optic nerve subatrophy and vitamin D deficiency, was hospitalized due to month long progressive left leg weakness resulting in gait instability. Neurological examination showed increased pharyngeal reflex, dysphonia, dysarthria. Deep tendon reflexes in hands were symmetrical 3+, patellar reflexes also were symmetrical 4+, patient presented bilateral clonus more prominent of the right side, Babinski reflex was positive on both sides. Muscle strength in all muscle groups were graded with score 5 except left legs quadriceps muscle strength was graded with score 3. Bilateral minimal intention tremor was noticed in both arms, dysmetria in both lower extremities. Romberg test was positive, patient was unable to perform tandem gait test. Gait was spastic and ataxic. Expanded Disability Status Scale (EDSS) score was 3,5. Patient has cognitive impairment since childhood, during hospitalization Montreal Cognitive Assessment (MoCA) score was 16/30. Magnetic resonance imaging (MRI) following MS protocol was ordered and the result showed non-contrast-enhancing demyelinating lesions in brain and spinal cord corresponding MS. Cerebrospinal fluid testing showed positive findings of oligoclonal antibodies and increased immunoglobulin G. Patient was discharged two days later with recommendations for ambulatory consultation with MS specialists to determine further therapy. **Conclusions:** Aim of this study is to demonstrates a rare case of development of MS in patient with antenatal brain damage, its neurological manifestations and unique MRI findings. Noticing new neurological symptoms in patients with neurological impairment since birth can help early diagnostics and administration of appropriate treatment for MS and other CNS diseases.

Citation

Volfa L, Pastare D. Development of multiple sclerosis in patient with antenatal brain damage – case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):64

NEUROSCIENCE & NEUROSURGERY

Neuroflow – diagnostic and therapeutic method for patients with central auditory processing disorder and similar on the example of 7-years-old boy on the autism spectrum disorder

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Abstract

Introduction: CAPD (Central Auditory Processing Disorders) are a group of disturbances in which the brain has difficulties with analyzing the sounds despite no damage to the peripheral hearing organ. Their symptoms include trouble with telling the characteristic differences among similar sounds, understanding what is said, coping with suppression of background noise and recognizing where a sound is coming from. CAPD is closely related to pedagogical and speech therapy difficulties. **Case discussion:** The clinical case under consideration is a male patient who is on the autism spectrum and was diagnosed with disorders of higher auditory functions accompanied by auditory hypersensitivity. A therapeutic program using Neuroflow auditory training was planned based on Neuroflow diagnostic tests and observation of the patient's behaviour during those tests. Therapy has been undertaken. **Conclusions:** As a result of the Neuroflow therapy auditory functions have improved significantly. It is recommended to continue Neuroflow auditory training to strenghten the achieved progress. Our novel Neuroflow therapy proved extremely useful in a case of a patient in autism spectrum and resulted in many improvement in his everyday life. It is easy to use, doesn't require specialized equipment and can be carried out from everywhere.

Citation

Dwornik J, Senderski A, Zawadzka-Głos L. Neuroflow – diagnostic and therapeutic method for patients with central auditory processing disorder and similar on the example of 7-years-old boy on the autism spectrum disorder. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):65

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NEUROSCIENCE & NEUROSURGERY

Ischemic stroke in a patient with anterior cerebral artery dissection – case report

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Abstract

Introduction: Recently, intracranial dissections have been increasingly reported. However, dissection of the anterior cerebral artery (ACA) is an infrequent entity with a reported incidence of 5% of intracranial dissections. The ACA dissection diagnosis is still challenging, and its clinical features are not well known. **Case discussion:** A 39-year-old male was admitted to the hospital after having two episodes of strong headaches in the left parietal area. Other symptoms included numbness and weakness in the right lower limb. He had no history of cardiovascular diseases or trauma. His blood pressure was 140/80 mmHg. Coexisting conditions included obesity. One week before the admission, he received the third dose of the COVID-19 vaccine. Computed tomography (CT) suggested an ACA aneurysm. For further diagnostics, CT angiography, lumbar puncture, and USG Doppler were performed. Angiography demonstrated dissection of the proximal A2 segment of the left ACA. In the dissection location, an aneurysm was observed, followed by a narrowing of the lumen by 90% caused by intramural hematoma. The patient received endovascular therapy with antithrombotic medication, beta-blocker, antibiotics, and analgesics. He was also referred to rehabilitation. The control angiography performed ten months after the first admission showed the artery with the correct lumen. Left ACA did not present any narrowing or sign of dissection. The patient was recommended to continue beta-blocker treatment and rehabilitation. He was discharged without neurological deficits with a next follow-up angiography recommendation. **Conclusions:** Most of the dissecting ACA aneurysms present with ischemia. Their etiology remains uncertain and may include multiple factors affecting the structure of the artery wall, especially in young patients without arteriosclerotic changes. This case illustrates endovascular management of dissecting aneurysm, focused on preventing further progression of stroke. Chosen carefully and combined with serial angiographic observation, it provides less invasive yet effective treatment than surgical methods.

Citation

Koc N, Krakowiak M. Ischemic stroke in a patient with anterior cerebral artery dissection – case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):66

NEUROSCIENCE & NEUROSURGERY

Immunoreactivity of the BAG-3 protein in the periventricular structures after the administration of proteasome inhibitors

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Abstract

Introduction: Bcl2-assosiated athanogene 3 (BAG-3) belongs to the co-chaperone BAG protein family and, in addition to other functions, is responsible for ATPase activity control in heat shock proteins Hsp70[1]. Thereby BAG-3 is engaged in processes of macroautophagy, connected with degradation of misfolded and non- ubiqutinated proteins that form perinuclear aggregates called aggresomes. Such way of protein degradation plays important role in cells and was demonstrated for e.g. polyQ-expanded huntingtin involved in Huntington disease. *In vitro* experiments proved that proteasome inhibitors (PI) such as bortezomib increases BAG-3 synthesis and the aggresomes quantity[2]. Thus BAG-3 is suspected to be responsible for the resistance to ubiquitin-proteasome system (UPS) inhibition. However, despite the ongoing research[3], the role of the BAG-3 protein in the CNS is still poorly understood. **Aim:** To determine how the proteasome inhibition affects the immunoreactivity of BAG-3 protein in paraventricular structures of the forebrain. Therefore we used immunochemical and WB studies performed with anti-BAG3 antibodies on our experimental model of intraventricular administration of different class PI in rats. **Results:** Changes observed in cells of structures bordering lateral ventricles: striatum, septum and corpus callosum, two weeks after proteasome inhibitors administration, were corresponding with changes distinctive for autophagy activation. WB studies showed that the amount of BAG3 protein in the rat striatum was statistically significantly higher after PI administration as compared to the control group. **Conclusions:** Based on the results, we stated that in rats two weeks after PI intraventricular injection there are present changes in BAG3 protein in comparison to the control group. It can indirectly indicate an intensified protein degradation that compensates the UPS inhibition. These results allowed us to hypothesize that BAG-3 could be an important compound that increases resistance to inhibition of the ubiquitin-proteasome system by inducing autophagy in the CNS structures.

Citation

Miazek W, Spodnik E, Spodnik JH, Wójcik S. Immunoreactivity of the BAG-3 protein in the periventricular structures after the administration of proteasome inhibitors. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):67

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):68

SURGERY

Anatomical variability of coracoacromial ligament – key to the success of subacromial impingement syndrome surgery

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Abstract

Introduction: Coracoacromial ligament (CAL) is a triangular structure lying between the coracoid process and the acromion. It stabilizes the head of the humerus and glenohumeral joint. CAL is contributing to the pathophysiology of pain associated with painful movement of the rotator cuff against the coracoacromial arch[1], or classic external impingement syndrome. The current CAL classification does not allow for an accurate assessment, disregarding the multiband variability. Accurate classification allowing for a precise determination of the ligament morphology is required to conduct further studies on the correlation between the type of CAL and the tendency to pathology. **Aim:** To investigate morphology of coracoacromial ligament and present classification, that allow a precise morphological description of CAL bands in terms of their variability and topographic relationships. To evaluate compliance of the morphological features observed during anatomical preparation and in imaging diagnostics (USG/MRI). **Materials and Methods:** The anatomical variations of CAL were examined in 40 cadavers fixed in 10% formalin solution. The results of the imaging diagnostics (MRI and USG) were analyzed and compared with the results of anatomical preparation. **Results:** In the proposed classification system Type I, characterized by single band – 52.5%. Type II, characterized by presence of two bands – 25%. Type III, characterized by presence of three bands – 2.5%. Type IV, characterized by a presence of four bands – 2.5%. Type V, which is characterized by presence of more than four bands – 17.5%. The results of the imaging diagnostics were consistent with the results of anatomical preparation. Abstract Introduction of new, dedicated MRI sequence enabling visualization of CAL morphology. **Conclusions:** The CAL is characterized by high morphological variability, the variants being associated with distinct clinical aspects. The introduction of a new, structured and more advanced classification seems necessary for orthopedists operating in this area.

Citation

Balcerzak A, Ruzik K, Podgórski M, Olewnik Ł. Anatomical variability of coracoacromial ligament – key to the success of subacromial impingement syndrome surgery. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):68

SURGERY

The patient must be patient! Konno surgery – effective treatment of left ventricular outflow tract obstruction

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Abstract

Introduction: Left arterial stenosis can occur at various levels, involving the ascending aorta and aortic arch, the aortic valve or left ventricular outflow tract obstruction (LVOTO). This defect often coexists with bicuspid aortic valve and coarctation of the aorta, as well as other cardiac defects. During the surgical treatment of a defect in a child, it is necessary to take into account the growing body, thus the need for reoperation to align anatomical relationships in the future or to repair a recurrent defect**. Case Description:** This case report describes a 14-year-old boy urgently admitted to the hospital because of the features of heart failure and a pulmonary hypertension found during an outpatient clinic visit. The child had previously undergone a series of surgeries for congenital coarctation of the aorta and recurrent aortic valve stenosis, but after balloon aortic valve plasty at the age of five years, his parents discontinued further follow-up. The patient was qualified for the Konno procedure, which involves incision of the left ventricular outflow tract (LVOT) by transecting the aorta, aortic valve and interventricular septum towards the apex, resulting in an ventricular septal defect (VSD) that needs to be closed with a xenograft patch, causing a dilatation of the left ventricular outflow tract and aortic annulus. An OnX 21 artificial valve was implanted in place of the crossed aortic valve. Balloon plication of the aortic recoarctation was also planned and performed 2 months later. **Conclusions:** Konno surgery in early childhood may promote valve changes at a later date, so the proper timing of the procedure is crucial. The procedure is also a treatment option in situations where the alternative Ross-Konno surgery with a tricuspid valve is not possible, due to a pulmonary valve defect, that is used as an autograft in the aortic position.

Citation

Bukała A, Krawiec M, Weremiuk M, Cygan J. The patient must be patient! Konno surgery – effective treatment of left ventricular outflow tract obstruction. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):69

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):70

SURGERY

Second toe-to-hand transplantation: a clinical case

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Abstract

Introduction: The hand is one of the body parts that is most susceptible to trauma. Mutilating hand injuries can lead to significant loss of function, particularly thumb amputation, which is responsible for 40% of hand role. **Case discussion:** A 24 year old man injured his left hand at work, resulting in amputation of I finger through the proximal phalanx and II, III, IV, V fingers – through the middle phalanges. He did not bring the fingers with him, therefore, doctors performed the surgery which involved flattening the distal ends of the bones and covering the soft tissue defects with a fasciocutaneous flap. Four months later, two surgical teams performed a two-stage surgery to transplant the second toe of the left foot into the thumb of the left hand. In the first stage, the soft tissues of the thumb were dissected. The long extensor and flexor tendons of the thumb were found, and the first metacarpal bone was shortened at the distal end. After that, the thumb's digital artery, vein and nerve were prepared for microsurgical connection. At the same time, another team performed a dissection of the second toe that revealed a superficial vein and a first dorsal metatarsal artery. Two extensor tendons were also severed at the distal end of the second metatarsal. Finally, the metatarsal bone was separated from the ligaments and soft tissues and was transected at the distal end. In the second stage, the free flap was transferred to the thumb defect. Osteosynthesis, tenorrhaphy and end-to-end blood vessel anastomosis were performed. Eventually, subcutaneous tissue was sutured and both wounds – closed up. **Conclusions:** Our case report suggests that toe-to-hand transplantation is a good surgical option for amputated finger reconstruction, providing structures similar to those of the hand, that can give both tissue coverage and function.

Citation

Rainys D, Lukoševičiūtė G, Smolskaitė I. Second toe-to-hand transplantation: a clinical case. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):70

SURGERY

Diaphragmatic reconstruction – a procedure to prevent catamenial pneumothorax recurrence

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Abstract

Introduction: Catamenial pneumothorax is a pneumothorax occurring in a period of 72 hours before or after menses. Its etiology is heterogeneous and may be the result of thoracic endometriosis, pathological foramina in the diaphragm, or hormonal aberrations leading to disruption of alveoli. The treatment of catamenial pneumothorax is challenging and characterized by a high recurrence rate. **Aim:** The study aims to present the results of the treatment of patients with catamenial pneumothorax, treated in the Department of Thoracic Surgery of the Medical University of Gdańsk. **Material and methods:** Twenty-one patients entered this retrospective analysis of prospectively gathered data. All the analyzed patients were treated surgically between the years 2011 and 2022. The inclusion criteria was the occurrence of pneumothorax during the perimenstrual period. Additional criteria were the presence of endometriosis and the recurrent character of the disease. **Results:** The median age of the analyzed group of patients was 33 years, by the time of the first episode of catamenial pneumothorax. Six of them were previously treated due to endometriosis. All the patients except one suffered from a right-sided pneumothorax (95%). In all of the patients, chest drainage was the first stage of treatment. The drainage was ineffective in 100% of patients. All 21 patients underwent video-assisted thoracoscopic surgery (VATS) bullectomy and pleurectomy. The recurrence rate after the procedure was 43%. Nine patients had their diaphragm reconstructed. The recurrence rate after reconstruction was 33%. Twelve patients did not undergo diaphragm reconstruction. The recurrence rate in this group was 50%. Only 33% of patients in the group with reconstructed diaphragm needed reoperation due to recurrence in comparison with 50% of patients without reconstruction who needed it. **Conclusions:** Treatment of catamenial pneumothorax is characterized by a high recurrence rate. Chest drainage and pleurectomy and bullectomy are not sufficient in the treatment of this form of catamenial pneumothorax. Diaphragmatic reconstruction intervention reduces the risk of recurrence.

Citation

Bobula J, Marjański T. Diaphragmatic reconstruction – a procedure to prevent catamenial pneumothorax recurrence. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):71

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):72

SURGERY

Mutation in SDHD and SDHB genes in a 22-year-old patient with multiple familial and malignant paragangliomas

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Abstract

Introduction: Paragangliomas are rare neuroendocrine tumors arising from the paraganglia bodies of the autonomic system. A significant part of paragangliomas and pheochromocytomas occur sporadically, but in recent years, with the knowledge of more than 20 mutations of predisposing genes, the proportion of genetically determined cases has increased. Molecular testing is now recommended as the standard of care for patients with paragangliomas in order to establish a confident diagnosis, plan appropriate follow-up and prognosis. **Case report:** The case report concerns a 22-year-old man who presented to his physician after an episode of fainting in 2012. As a result of the tests performed, a proliferative lesion was detected in the upper mediastinum. The lesion was removed in 2013 with the diagnosis of a paraganglioma. Another paraganlioma-like lesion appeared in the retroperitoneal space (removed in 2014) and on the left side of the neck (removed in 2020). The father's medical history included two resections of paranganglioma of the neck. The patient was diagnosed with multiple pheochromocytomas and paragangliomas syndrome with a mutation in the SDHD gene. A follow-up MRI performed in 2022 revealed a 16x13x21 mm focal lesion in the division of the right common carotid artery. The patient had recently begun to feel pressure in this area. As part of hospitalization, the lesion was removed, and histopathological examination revealed a paraganglioma with cells without SDHB expression, which supports loss of function of this gene (SDHB deficient). **Conclusions:** Mutations in the SDHB and SDHD genes are associated with a higher risk of pheochromocytoma and paraganglioma neuroendocrine tumors. Patients burdened with multiple pheochromocytoma and paraganglioma syndromes associated with gene mutations require multispecialty care. Because of its rarity and the diagnostic difficulties associated with the need for targeted genetic testing, it often takes a long time from the onset of symptoms to final diagnosis.

Citation

Kukawska-Rytel M, Banaszek Ł, Szczepanek-Tyrak E, et al. Mutation in SDHD and SDHB genes in a 22-year-old patient with multiple familial and malignant paragangliomas. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):72

SURGERY

Post liver transplantation vasoplegic syndrome – case study and review of therapeutic options

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Abstract

Introduction: There are many indications for liver transplantation (LT) in modern transplantology. Unfortunately, numerous complications may occur, with post-LT vasoplegic syndrome as one of them. Given its rareness, there are limited data on the treatment of that potentially fatal condition. It manifests as persistent low blood pressure (BP) with resistance to catecholamines. Considered treatment options are intravenous administration of methylene blue (MB) or hydroxocobalamin (HOCbl). **Case discussion:** The 51-year-old patient was admitted to the Department of General, Transplant, and Liver Surgery for the elective LTx procedure due to cryptogenic cirrhosis manifested by refractory ascites, esophageal varices, and episodes of hepatic encephalopathy. Abnormally low central venous pressure was observed intraoperatively with an attempt of adjustment by continuous noradrenaline (NA) and adrenaline (A) infusion. After the operation, the patient was in severe condition. He was mechanically ventilated and presented with circulatory failure with an exigency of dialyses with continuous A and NA infusion. Since the 2nd postoperative day, NA doses were gradually lowered with persisting marks of multiple organ failure. MB was administered which resulted in a temporary rise in BP. The patient died on postoperative day 3. **Conclusions:** Vasoplegic syndrome is very rare complication observed in LTx patients. There are no established guidelines for treatment for vasoplegic syndrome. According to the literature, in case of failure of continuous catecholamine infusion, MB should be considered as the next step in therapy with possible subsequent HOCbl application, but the administration schedule and its effectiveness remain unclear.

Citation

Kuncewicz M, Figiel W, Stypułkowski J, Morawski M. Post liver transplantation vasoplegic syndrome – case study and review of therapeutic options. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):73

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AND CLINICAL MEDICINE 2023;6(Suppl.3):74

ONCOLOGY 1

A clinical report of aggressive colorectal adenocarcinoma with extensive metastatic dissemination

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Abstract

Introduction: Colorectal cancer is one of the most widely met types of cancer. Most often, in 50% of the cases colorectal cancer, creates metastases in the liver. Dissemination is also common in the peritoneum and lungs, but other organs are affected less frequently. **Case discussion:** 32-year-old patient in October 2017 was diagnosed with sigmoid cancer which was proven to be histologically as adenocarcinoma. Laparoscopic sigmoid resection took place. In January 2018, adenocarcinoma complexes were found in the left lung, the marginal resection of the lower lung lobe took place, patient received chemotherapy. In October 2018, MTS was found in the left lung, in November repeated lung resection was performed. By the end of the therapy, cyst in the left ovary was detected. Waiting for the operation, the patient got the cyst rupture. In 2019, hysterectomy with appendages was performed, after the operation was done, it was concluded that ovary has held metastasis of adenocarcinoma in it. After that in October, scintigraphy was made, during which was concluded metastatic dissemination to the right scapula. The patient received palliative radio- and chemotherapy. PET/CT was made in the year 2021, during which metastasis in liver and spleen were found. In March 2022, splenectomy, liver metastasis and peritoneum metastasis resection were performed, as well as lymphadenectomy. The patient continued to receive chemotherapy, but in September 2022 epileptic seizures took place, due to which head MRI took place, which has proven metastasis in the brain. In October 2022 stereotactic radiosurgery took place. Cerebral edema took place. After cupping of the edema, in November, cerebral metastatic resection was performed. **Conclusions:** Such an aggressive cancer is very rare, especially at such an early age. The patient probably has a predisposition to genetic mutations in the body, and additional genetic tests must be performed to prove this.

Citation

Rižankova A, Hasnere S. A clinical report of aggressive colorectal adenocarcinoma with extensive metastatic dissemination. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):74

ONCOLOGY 1

Clinical case of a 32-year-old female patient diagnosed with complicated sigmoid cancer

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Abstract

Introduction: The incidence rate of colorectal cancer is the third highest, and the mortality rate is the second highest in both sexes. Due to the introduction of screening, the incidence of late diagnosis among patients over 50 years of age has decreased markedly. However, the percentage of young patients with colorectal cancer detected at a late stage with a severe course has gradually increased. The localization of the tumor process in the sigmoid part of the colon, which preserved an asymptomatic form till the last moment, represents a particular danger. **Case description**: This clinical case presents a 32-year-old female. The biopsy, histological analysis, and instrumental diagnosis confirmed stage 4 adenocarcinoma of the sigmoid colon. The patient received neoadjuvant chemotherapy. In June 2020, the sigmoid colon, and liver Sg2,3 were resected. In August 2020, after a CT scan, surgeons performed a hemihepatectomy on the right side of the liver. In November 2021, the course of the disease got complicated by ileus. There was evidence of disease progression, it was decided to perform an extensive resection of the small intestine due to the presence of metastatic conglomerates. A terminal jejunostomy was performed. The patient was dependent on parenteral nutrition. RTG showed metastatic lesions of the lungs on both sides. In June 2022, a follow-up CT scan showed a negative dynamic. The number of metastases and their size increased. In September 2022, bleeding from the metastasis of the anterior wall of the abdominal cavity began. Bleeding was unresponsive to conservative therapy, and the patient passed away from post-hemorrhagic shock. **Conclusions:** The increase in the number of cases in younger patients without any main risk factors that provoke the occurrence of the disease requires lowering the age threshold for screening

Citation

Vikuļina M. Clinical case of a 32-year-old female patient diagnosed with complicated sigmoid cancer. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):75

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AND CLINICAL MEDICINE 2023;6(Suppl.3):76

ONCOLOGY 1

An atypical clinical case of an elderly patient with mucinous adenocarcinoma of the colon

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Abstract

Introduction: Mucinous adenocarcinoma is a rare type of colorectal cancer, with an average diagnosis rate of 6-15%. Its peculiarity consists of mucus hypersecretion with the predominance of specific mucin fractions by tumor cells. Typical mucinous adenocarcinoma is characterized by: tumor localization in the proximal colon, a rare manifestation of intestinal obstruction, the young patient's age (<50 years), and rapid metastasis to the liver. However, this clinical case shows a patient with the exact opposite characteristic of mucinous cancer, distal localization, the patient is older, had metastases in the lymph nodes, and was admitted with complaints of intestinal obstruction. **Case description:** The 63-year-old patient was admitted to the abdominal surgery department in April 2017 because of a mass in the area of the spleen flexure detected after a colonoscopy. A laparotomy, and hemicolectomy of the left side with extensive lymphadenectomy was performed. After histological analysis, mucinous adenocarcinoma of the descending colon in stage 3C was diagnosed. Adjuvant chemotherapy was prescribed. From 05.2018 to 02.2020, after a follow-up CT scan, specific lymph nodes were detected. A lymphadenectomy was performed. Lymph nodes from arteria lienalis, hilus lienis, left kidney hilum, retproperitoneal space, lig.hepatoduodenale, retrocaval, vena cava inferior lateral side, parailiac right side were resected. Adjuvant chemotherapy was repeatedly performed. After histology, metastatic lesions were found in 6 lymph nodes. From 11.2020 to 09.2022, there was no evidence of disease progression on control CT scans. **Conclusions:** The clinical case described above is interesting because of its uncommonness and rarity in clinical practice. When identifying it, it is essential to be aware that even the absence of characteristic signs for a specific subtype of colorectal cancer does not exclude the possibility of its occurrence, also it's important to be aware of the specific treatment options for this type of adenocarcinom

Citation

Vikuļina M. An atypical clinical case of an elderly patient with mucinous adenocarcinoma of the colon. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):76

ONCOLOGY 1

Long-term outcomes of liver transplantation for unresectable metastatic neuroendocrine tumors

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Abstract

Introduction: Neuroendocrine tumors (NET) are a heterogeneous group. Well-differentiated lesions are very slow growing, but often revealed as hepatic dissemination. Liver transplantation (LT) offers a curative modality for unresectable disease in the selected group of patients. **Aim:** The aim of the study was to determine the outcomes of patients undergoing LT for NET liver metastases. Discussion: This was a retrospective study that identified 19 patients who underwent LT for unresectable NET liver metastases among 2680 LTx between December 1989 and December 2022 in the Department of General, Transplant, and Liver Surgery of the Medical University of Warsaw. The clinical and pathological data were analyzed. Kaplan-Meier estimator for survival and Cox proportional hazards regression analysis for risk factors were used in statistical analyses. **Results:** There were 11 (57.9%) females and 8 (42.1%) males. The primary tumor was located most frequently in the pancreas (42.1%) followed by the small bowel (31.6%). The median follow-up was 72.5 months. The OS was 94.7%, 88.0%, 88.0% 70.4%, and 49.3% after 1, 3, 5, 10, and 15 years respectively. Accordingly, the RFS was 93.8%, 72.9%, 64.8%, 27.8%, and 27.8% after 1, 3, 5, 10, and 15 years. Univariate analysis revealed factors associated with worse outcomes. The worst outcomes were observed for Ki-67 ≥5% for both overall survival (OS) (p=0.023, Hazard Ratio (HR) 7.13, 95% Confidence Intervals (95%CI) 1.32-38.63) and recurrence-free survival (RFS) (p=0.019, HR 13.68, 95%CI 1.54-121.52). The recipient age ≥55 years was found as a risk factor for worse RFS (p=0.046, HR 5.47, 95%CI 1.03-29.08). Multivariate analysis revealed Ki-67 ≥5% as the sole independent factor for worse OS (p=0.021, HR 13.78, 95%CI 1.48-128.56). **Conclusion:** Patients with unresectable NET achieve long survival after LT, even though in majority of them the recurrence of the disease is observed. The risk factors associated with worse outcomes are attributed to primary tumor aggressiveness.

Citation

Kuncewicz M, Karaban K, Jaszczyszyn I. Long-term outcomes of liver transplantation for unresectable metastatic neuroendocrine tumors. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):77

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):78

ONCOLOGY 1

Adrenocortical carcinoma – unusual symptoms of a rare cancer

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Abstract

Introduction: Adrenocortical carcinoma (ACC) is a rare cancer that affects between one and two out of every million people worldwide each year. It is most commonly caused by the accumulation of sporadic mutations over time, but can also be linked to genetic mutations in the TP53 tumor suppressor gene, which is present in 50-80% of ACC cases. **Case discussion:** A 12-year-old boy went to the doctor complaining of stomach pain, abdominal bloating, and loose feces. During medical interview patient's warnings about excessive body hair beneath his arms and in the genital area were noted. Physical examination revealed a perceptible drag 6 cm below the rib arch on the right side. Tanner scale pubic hair growth was insufficient for the patient's age – P IV. Magnetic resonance imaging (MRI) preceded by ultrasound revealed a 14 x 13 x 21 cm tumor spanning a significant portion of the right side of the abdomen. Cortisol, androstenedione, and dehydroepiandrosterone levels were all increased, according to hormone testing. Mitotane was included in the treatment in increasing doses and subsequently chemotherapy according to the GPOH-MET 97 treatment programme was started. Tumor resection was performed. On further examination, the patient was diagnosed with a rare syndrome of increased predisposition to cancer – Li-Fraumeni syndrome. **Conclusion:** Diagnosing ACC at an early stage, when it can be surgically removed, significantly improves the prognosis, resulting in a 66-82% 5-year survival rate. Given the increased susceptibility of Li-Fraumeni syndrome patients to cancer, genetic screening of children whose close family members have suffered from malignancies that are a component of Li-Fraumeni syndrome should be considered.

Citation

Maroszczuk, T Kapała J. Adrenocortical carcinoma – unusual symptoms of a rare cancer. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):78

ONCOLOGY 2

Different ways of treatment of primary sinonasal mucosal melanoma – case report

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Abstract

Introduction: Melanoma is a malignant tumor that develops from melanocytes, which are neural crest-derived pigment cells. Primary sinonasal mucosal melanoma is a rare neoplasm, seen in less than 1% among all melanomas. It is more aggressive than its cutaneous counterpart and has a poor prognosis. The general 5-year survival rate for cutaneous melanoma is 80%, while for the mucosal form it is only 25%. **Case discussion:** A 56-year-old woman was admitted to the otolaryngology department with a tumor in the right nasal cavity. Histopathological examination and subsequent CT scan revealed large malignant melanoma in frontal and maxillary sinuses. The genetic test excluded the mutation in the *BRAF* gene; therefore, after MDT, the patient was qualified for *nivolumab* treatment. At the time of the third dose of nivolumab, the patient suffered a severe right nasal cavity haemorrhage. Due to the high risk of bleeding recurrence, the right side maxillectomy with exenteration of the right orbital cavity and ligation of the right external carotid artery was performed. Nivolumab therapy was continued safely. 6 months later CT scan revealed metastases in the trachea and bronchial tree, therefore, the patient was qualified for brachytherapy that enabled the stabilization of the disease. After an additional 8 months of immunotherapy the patient developed CTC3 infectious pneumonitis and was given steroid therapy and antibiotics. After AE resolution, the patient was qualified for *ipilimumab* treatment. 2 months after the last course of *ipilimumab,* the patient started VCD chemotherapy. The patient died 1 year later, 4 years after diagnosis. **Conclusions:** Although the treatment of mucosal melanoma is difficult, this patient managed to complete a few different ways of treatment, including surgery, *ipilimumab*, brachytherapy, *nivolumab,* and VCD chemotherapy. Due to those methods, the patient has lived for 4 years after the diagnosis despite a poor prognosis.

Citation

Gorzeń A, Czarnecka AM. Different ways of treatment of primary sinonasal mucosal melanoma – case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):79

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):80

ONCOLOGY 2

Treatment of and surgical approach to a vasoproliferative retinal tumor

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Abstract

Introduction: Vasoproliferative tumors of the retina are a rare condition, which can be either of idiopathic origin or secondary to other ocular ailments. They usually display themselves in the inferior, temporal periphery of the retina. They differentiate from other ocular tumors by the numerous blood vessels embedded in their mass and the presence of inflammatory exudate. **Case discussion:** A 49 year old woman presented to her doctor with a complaint of dark spots in her field of vision. Two years earlier, she had undergone iridotomy and a barrage laser therapy (For?). During the visit, she was diagnosed with an inflammatory tumor of possible vascular origin with secondary cystoid swelling of the macula of her right eye. She underwent pars plana vitrectomy with ERM macula and ILM peeling, and laser coagulation of her retina. She was administered an intravitreal steroid injection. A month after the surgery the tumor was still present, however there was a regression of the macular swelling and no VMT traction. At two month follow up the swelling of the macula had grown compared to the previous appointment, and the tumor seemed more prominent with swirling vessels. The patient qualified to undergo another PPV surgery, with macular peeling, administration of a steroid and endophotocoagulation of the tumor. This second surgery was performed. Post surgery it was hard to see the retina or the tumor because of the accumulation of the steroid. The patient was released from the hospital and asked to come in two weeks later for follow up. Currently she is expecting the mentioned follow up. **Conclusion:** This case describes long term treatment of the vasoproliferative tumor and related conditions. It presents responses to dissatisfying outcomes and management of the disease. Steroid treatment is not commonly used in VPR cases and presents a different approach to this condition.

Citation

Kuczyńska K, Gębka A. Treatment of and surgical approach to a vasoproliferative retinal tumor. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):80

ONCOLOGY 2

Complete blood count parameters as prognostic markers of ovarian cancer recurrence

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Abstract

Introduction: Although significant efforts have been made in the treatment of ovarian cancer (OC), it is still the leading cause of death among all gynecological malignancies. Multiple biomarkers can estimate the prognosis of the disease. In this context, attention is being paid to the role of peripheral blood components, including platelets, lymphocytes, and neutrophils as they may play a protumoral role in early metastases in *in vitro* studies. Thrombocytosis has been reported in ovarian cancer patients, however, its predictive potential, especially in combination with other parameters, remains unclear. **Aim:** We aimed to determine the relationship between the neutrophils, lymphocytes, and platelets and the prognosis of OC among patients treated at the Department of Gynecology, Obstetrics, and Gynecologic Oncology. Materials and Methods: We collected patients' data treated in our clinic between 2013 and 2022 and randomly selected 100 cases for analysis. The survival analysis was performed using the Kaplan-Meyer method and a double-sided Mantel–Cox (Log-Rank) test on patient groups with normal and high platelets, lymphocytes, and neutrophil counts. The disease recurrence hazard was estimated with the Cox proportional-hazards model applied with single and multiple factors. Further, the differences between FIGO stages I/II and III/IV were investigated with the U-Mann-Whitney test. **Results:** We demonstrated decreased progression-free survival (PFS) in OC patients with elevated total platelets and neutrophil count at the time of diagnosis (Cox multiple regression p=0.0006; p=0.02, respectively). Patients with high platelets had shorter PFS than those with normal values (log-rank test, p=0.0004). Patients with more advanced disease (FIGO III/IV) had higher platelets than those with malignancy confined to the pelvis (FIGO I/II, Mann Whitney test, p=0.0008). **Conclusions:** Collectively, platelet and neutrophil count can serve as indicators of an increased risk of disease progression and more advanced disease.

Citation

Kamińska A, Kwiatkowska N, Kaminski J, Zaborowski M. Complete blood count parameters as prognostic markers of ovarian cancer recurrence. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):81

EUROPEAN JOURNAL OF TRANSLATIONAL
AND CLINICAL MEDICINE 2023;6(Suppl.3):82

ONCOLOGY 2

Great mimicker – a case of occult melanoma displaying ganglioneuroblastic differentiation

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Abstract

Introduction: Melanomas are known for their differentiation plasticity which poses a diagnostic challenge for dermatologists and pathologists. We report an extraordinary case of metastatic melanoma with occult primary displaying ganglioneuroblastic differentiation. **Case discussion:** 76-year-old male was admitted for investigation of axillary lymphadenopathy that he has observed for two years. Subsequently, an excisional biopsy of one of the enlarged lymph nodes was performed. On histopathological examination, the lymph node was infiltrated by biphasic neoplasm composed of spindle cell component and ganglioneuroblastic elements with the formation of neuropil- like areas. The former component showed a strong expression of SOX10 and a weak expression of SOX11 and PRAME. No expression of melan-A, BRAF V600E, neuroendocrine markers, desmin, MyoD1, and S100 was noted. There was a retained expression of H3K27me3 and INI1. On the other hand, the ganglioneuroblastic component was positive for synaptophysin, neuron-specific enolase, and neurofilament proteins. Based on the immunohistochemical profile a suspicion of melanoma was raised. Subsequently, the tumor underwent BRAF and NRAS sequencing which revealed a variant with potential clinical significance in melanoma in exon 3 of NRAS. The patient underwent a comprehensive work-up including a dermatological examination and PET scan to identify the primary site but it remained occult. The patient is currently free of symptoms with no signs of the disease. **Conclusion:** A primary tumor cannot be detected in approximately 5% of metastatic melanomas. If they demonstrate unusual histological features the establishment of the appropriate diagnosis may be very difficult. Our case demonstrates that thorough immunohistochemical and molecular investigation of the tumor is crucial in the diagnostics of melanomas mimicking other neoplasms.

Citation

Skrzypkowska P, Kunc M, Biernat W. Great mimicker – a case of occult melanoma displaying ganglioneuroblastic differentiation. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):82

ONCOLOGY 2

Rectum and bladder toxicity in patients receiving prostate bed irradiation – dose-volume parameters analysis

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Abstract

Introduction: Although prostate cancer treatment is increasingly effective, its toxicities pose a major concern. **Aim:** To assess the rate of adverse events (AEs) and the prognostic value of dose-volume histogram (DVH) parameters for the occurrence of treatment toxicity in patients treated with post–prostatectomy prostate bed radiotherapy (RT). **Materials and Methods:** The AEs were scored according to the CTCAE v.5.0. The rectum and bladder were contoured according to the RTOG Guidelines. The DVH parameters were assessed using data exported from the ECLIPSE treatment-planning system. Genitourinary (GU) and gastrointestinal (GI) toxicity were analysed using consecutive dose thresholds for the percentage of an organ at risk (OAR) receiving a given dose, and the QUANTEC dose constraints . **Results:** 213 patients were included in the final analysis. Acute grade 2 or higher (≥G2) GU AEs occurred in 18.7% and late in 21.3% of patients. Acute ≥G2 GI toxicity occurred in 11.7% and late ≥G2 in 11.2% of the patients. The most common adverse effects were diarrhoea, proctitis, cystitis and dysuria. The most significant predictors of acute GI toxicity were rectum V47 and V46 ($p<0.001$ and $p<0.001$) and rectum wall V46 ($p=0.001$), whereas for late GI AEs, rectum wall V47 and V48 ($p=0.019$ and $p=0.021$). None of the bladder or bladder wall parameters was significantly associated with the risk of acute toxicity. Minimum dose to bladder wall ($p=0.004$) and bladder ($p=0.005$) were the most significant predictors of late GU toxicity. **Conclusions:** Postoperative radiotherapy is associated with a clinically relevant risk of AEs, which is associated with DVH parameters, and remains even in patients who fulfil commonly accepted dose constraints. Considering the lack of survival benefit of postoperative adjuvant RT, our results suggest that the early-salvage approach allows avoiding a significant risk of treatment toxicity.

Citation

Hasterok M, Szołtysik M, Nowicka Z, et al. Rectum and bladder toxicity in patients receiving prostate bed irradiation – dose-volume parameters analysis. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):83

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AND CLINICAL MEDICINE 2023;6(Suppl.3):84

POSTER SESSION

Steroidogenic potential of alternariol in human prostate cells

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Abstract

Introduction: Steroidogenesis is a multistep process involving the conversion of cholesterol to a comprehensive array of downstream steroids (including testosterone and DHT, via multiple steroidogenic enzymes), environmental agents that affect this process might participate in prostate cancer (PCa) incidence and progression. **Discussion:** Alternariol (AOH) is one of mycotoxins produced by Alternaria species and often found in fruit and processed fruit products (i.e. juices, wine) as well as vegetables. AOH has been considered as endocrine disruptor due to reported estrogen and androgen receptor binding in cells. AOH structural similarity with cholesterol may possibly direct the interaction of AOH in the plasma membrane. Thus, on the basis of this observation, it is also possible that this toxin might modulate steroidogenesis in PCa cells and participate indirectly in cancer progression. **Results:** Androgen independent human prostate cancer PC-3 cells were treated with AOH (10 µM; 0,1 µM), dehydroepiandrosterone (DHEA; 100 nM) as a positive control, DON and DHEA and non-treated as a control for 48h. Our findings indicate that AOH modulates the process of intracellular steroidogenesis in prostate cells, thus influencing both male physiology. by affecting the expression of genes involved in the steroid hormones production and steroid hormon release.

Citation

Urbanek KA, Kowalska K, Habrowska-Górczyńska DE, et al. Steroidogenic potential of alternariol in human prostate cells. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):84

POSTER SESSION

A case report of a 25-year-old patient with a complete hydatidiform mole

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Abstract

Introduction: Hydatidiform mole is a benign form of gestational trophoblastic disease. It develops as a result of improper fertilization of the egg cell, which properly implants and proliferates in the uterus. There are two types of moles: complete and partial. The incidence, including both types, is estimated at 1 in 1000 pregnancies and 1 in 41 miscarriages in Europe and the USA. **Case discussion:** A 25-year-old female patient was admitted to the gynecology department due to a suspicion of a hydatidiform mole. Two months earlier, a complete miscarriage was reported in the second month of the patient's first pregnancy. Vaginal bleeding continued since then. Laboratory tests showed anemia and significantly elevated levels of human chorionic gonadotropin, which were outside the normal range for the patient's period. An ultrasound examination was performed, which revealed a hydatidiform mole with pathological flows and bilateral multilocular ovarian cysts measuring 6x6.5 cm without the presence of fluid in the pouch of Douglas. After establishing the diagnosis, a decision was made to surgically remove the mole by vacuum evacuation under the guidance of transabdominal ultrasound and curettage of the uterine cavity. The procedure was successful. Tissues expelled during the procedure were sent for histopathological examination, which confirmed the presence of a complete hydatidiform mole. The level of beta HCG after the procedure significantly decreased. **Conclusions:** Due to the presence of a mole in the population of pregnant women in the range of 1 permille, one should take into account the possibility of encountering a patient with the described condition in medical practice. Early diagnosis allows appropriate treatment to avoid adverse complications, such as transformation into choriocarcinoma, which may arise as a result of a persistent mole after surgical removal. Fast and proper treatment often allows patients with this medical condition to maintain normal reproductive functions.

Citation

Rzyczniok P, Woskowska A, Śledziewska A, Kowalczyk D. A case report of a 25-year-old patient with a complete hydatidiform mole. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):85

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POSTER SESSION

The relationship between BMI, reaction severity and tryptase concentration in patients with allergy to Hymenoptera

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Abstract

Introduction: Allergy is an excessive, abnormal reaction of the immune system to foreign allergens. Insects whose venom cause allergic reactions in Central Europe usually come from the order of Hymenoptera. An anaphylactic reaction is a complex process. The risk of its development and severity of its course depend on various factors. Increased tryptase levels are among the risk factors for a severe allergic reaction. Literature studies indicate that elevated levels of tryptase may occur in people with BMI> 30.0, which could suggest a greater degree of reaction severity (SYS) following a hymenoptera sting in people with allergies. **Aim:** Assessment of the relationship between BMI and SYS values as well as tryptase concentration in patients allergic to Hymenoptera venom. The knowledge of risk factors for allergic reactions may allow to avoid severe systemic reactions in the future. **Materials and Methods:** Medical records of 72 patients with symptoms of hypersensitivity to the venom of hymenoptera referred to the Opole University Hospital from the 2018-2021 period were analyzed. The data from the history and the results of additional tests were obtained. The symptoms of hypersensitivity were classified according to the Mueller scale. **Results:** Increased levels of tryptase were observed in the older age group of patients. There was no statistical difference between people with abnormal BMI values and those with normal BMI values in terms of the severity of the systemic reaction. There was no correlation between the tryptase concentration and the severity of symptoms following the sting. **Conclusions:** In our research, no direct relationship between the BMI value, the severity of the reaction and the concentration of tryptase in patients allergic to Hymenoptera venom was found. It should be borne in mind that the role of overweight and obesity in the development of allergic diseases is still being investigated.

Citation

Czyczerska M, Kalinowski A, Klimek M, et al. The relationship between BMI, reaction severity and tryptase concentration in patients with allergy to Hymenoptera. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):86

POSTER SESSION

Management of extensive maxillofacial injury related to a gas balloon explosion: a case report

Elina Misane

Abstract

Introduction: Maxillofacial trauma most often is combined with other serious concomitant injuries. The severity of high energy trauma in the maxillofacial region can determine neurotrauma presence. Both surgeries could be done at the same time. **Case discussion:** 62 y.o. male was hospitalised in the emergency room due to maxillofacial injury related to a gas balloon explosion. Patient was intubated in the prehospital period. Hemodynamic was unstable. Glasgow coma scale was 3. Clinically extensive lacerations and open fractures of maxillofacial complex were detected. Because of the high energy trauma mechanism, the patient was examined according to polytrauma protocol. Focus assessment with sonography for trauma was negative- there were no free liquid detected in abdominal cavity, intrapleural space or pericardium. CT scan was performed. Multiple maxillofacial bone fractures, mostly on the left side of the face, also acute subdural hematoma above the left lobe with midline dislocation, multiple fractures of the cranial base were detected. Emergency surgery was performed: craniotomy, decompression, evacuation of acute subdural hematoma parallel with osteosynthesis of opened maxillofacial bone fractures. Tracheostomy was done. **Conclusions:** High energy maxillofacial injury with serious neurotrauma, requires both- neurosurgeon and maxillofacial surgeon for combined management.

Citation

Misane E. Management of extensive maxillofacial injury related to a gas balloon explosion: a case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):87

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POSTER SESSION

In vitro fertilization and mass spectrometry and: in search of oocyte quality peptide biomarker

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Abstract

Introduction: In vitro fertilization (IVF) is a widely used assisted reproductive technology (ART) that effectively helps infertile couples get pregnant. Unfortunately, during a given procedure, the evaluation of the quality of oocytes collected for fertilization is mainly based on the evaluation of oocyte morphology, which is a very subjective method. Not only would this minimize the number of oocytes to be retrieved (ethical issues), but also increase the probability of successful fertilization and pregnancy outcome. **Discussion:** Follicular fluid is an environment of oocyte maturation, which makes it a great candidate for assessing oocyte quality. Up to now, most studies of follicular fluid investigate its proteome with mass spectrometry methodology. This project goes a step further and aims to determine the relationship between peptides secreted by the egg/embryo and its development and the possibility of achieving a healthy pregnancy. By involving peptidomics studies, we intend to find qualitative and quantitative differences in the follicular fluid's peptidome of patients who underwent hormonal stimulation (or IVF procedure). Finding such a peptide biomarker of oocyte quality would help improve the IVF procedure and increase our understanding of the molecular processes involved in oocyte development and growth. **Conclusion:** Here, we present the preliminary data of LC-MS/MS measurements and bioinformatic analysis as the baseline for further research of follicular fluid peptidome.

Citation

Mruk I, Czaplewska P, Łukaszuk K. In vitro fertilization and mass spectrometry and: in search of oocyte quality peptide biomarker. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):88

POSTER SESSION

Analysis of spontaneously reported adverse reactions of OTC analgesics in the Czech Republic

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Abstract

Introduction: Analgesics are among the most widely used groups of drugs. Improperly chosen therapy leads to the occurrence of side effects, worsens the quality of life of patients and increases the economic burden. We evaluated the consumption and side effects of the over-the-counter (OTC) analgesics in the Czech Republic: dexketoprofen, diclofenac, ibuprofen, acetylsalicylic acid, naproxen, paracetamol. **Aim:** The aim of our evaluation was to analyse spontaneous reports of suspected adverse reactions (ADRs) of monitored substances registered in the pharmacovigilance database of the State Institute for Drug Control (SÚKL) in the period 2015-2020. **Materials and Methods:** Data on the occurrence of ADRs were extracted and categorized. In our analysis, we included the ADRs directly associated with the administration of a specific medication. **Results:** We extracted and analysed a total of 186 reports; dexketoprofen 2 (1%) reports, diclofenac 38 (20,4%) reports, ibuprofen 77 (41,4%) reports, acetylsalicylic acid 19 (10,2%) reports, naproxen 4 (2%) reports, and 46 (25%) reports were for paracetamol, of which 13 (7%) due to overdose. In terms of categorization, the most common ADRs were skin related, gastrointestinal and nervous system disorders. From the skin ADRs, these were drug rashes and photosensitivity reactions. Among analgesics consumption clearly dominated ibuprofen. **Conclusions:** The analysis provided us with information on the severity and frequency of ADRs. Contraindications, age and medical history of the patient, individual efficacy and tolerability, potential drug interactions must be taken into account when selecting a specific substance. Our findings can help to select a suitable analgesic for a particular patient and contribute to safety.

Citation

Mlíchová J, Šimandl O, Kmoníčková E, Paluch Z. Analysis of spontaneously reported adverse reactions of OTC analgesics in the Czech Republic. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):89

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POSTER SESSION

Nonclinical evaluation of novel poly(sodium styrenesulfonate) – based copolymers with anticoagulant activity

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Abstract

Introduction: Unfractionated heparin (UFH) remains the most widely utilized parenteral anticoagulant despite its inherent limitations. The heterogeneous chain structure of this polysaccharide leads to unpredictable anticoagulant activity, making its use challenging to control. This has motivated us to explore alternative anticoagulants. **Aim:** The aim of the present study was to search for heparin replacement within poly(sodium styrenesulfonate)-based copolymers with well-defined structures and potent anticoagulant activity. **Materials and Methods:** We have synthesized, purified and characterized two novel poly(sodium styrenesulfonate)-based copolymers (P1 and P2). The potential anticoagulant activity of both copolymers was assessed using *in vitro* assays, including the activated partial thromboplastin time (aPTT) and prothrombin time (PT). The safety study was conducted to evaluate the effect of the copolymers on rats' blood count and cardiorespiratory parameters (blood pressure and heart rate). The *in vivo* efficacy of the lead copolymer, administered in three doses, was assessed in the electrically-induced arterial thrombosis model in the carotid artery of rats by measuring aPTT, activated clotting time (ACT), and thrombus weight (TW) as described previously. All procedures involving animals were approved by the Local Ethical Committee (Permit Number 6/2021). **Results:** Both copolymers prolonged aPTT and PT *in vitro*. P2 caused cardiorespiratory and hematological complications in rats, and its study was discontinued. In the *in vivo* efficacy study, P1 dose-dependently prolonged aPTT and ACT. The highest dose of P1 significantly decreased TW. All rats survived the experiment. **Conclusions:** The copolymer P1 has shown promising and comparable to UFH anticoagulant activity with low cardiorespiratory and hematological toxicity. This outcome encouraged us to further investigate its mechanism of action and verify its potential for use as a safe replacement of UFH with more predictable and easier to control anticoagulant activity.

Citation

Świetoń J, Miklosz J, Jakimczuk A, et al. Nonclinical evaluation of novel poly(sodium styrenesulfonate) – based copolymers with anticoagulant activity. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):90

POSTER SESSION

Coronary vasospasm resulting in myocardial infarction – a case report

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Abstract

Introduction: 6-8% of patients with acute myocardial infarction (MI) have no significant lesions (>50% of the vessel lumen) in the coronary arteries. MI with non-obstructive coronary arteries (MINOCA) is more likely to occur in women and in young patients with non-ST- segment elevation MI. MINOCA might be caused by coronary vasospasm or microvascular disfunction. MINOCA is associated with an increased risk of adverse clinical events, thus must be properly treated. **Case presentation:** A 49-year-old female with a history of hypertension, nicotine use and family history of MI was admitted to the Cardiology Department with angina pectoris and elevated high-sensitivity Troponin I level (12000 ng/ml). Electrocardiography (ECG) showed ST-segment elevation in leads II, III, aVF, V4-V6. Coronary angiography detected no significant lesions in the coronary arteries. During the procedure, previously described ST- segment elevation was not observed. Optical coherence tomography revealed early stage of coronary artery disease. Echocardiography found normal systolic and diastolic function of the left ventricle. Intracoronary acetylcholine provocation testing induced anginal chest pain, ST- segment elevation and vasospasm of the anterior descending branch of the left coronary artery, thus confirmed that underlying cause of MINOCA was a coronary vasospasm. Subsequent ECG showed negative T waves in leads II, III, aVF, V4-V6. Pharmacotherapy with a dihydropyridine calcium channel blocker, an angiotensin-converting-enzyme inhibitor and a statin as well as dual antiplatelet therapy was started. **Conclusions:** MINOCA should be considered as a differential diagnosis in patients with MI, especially in young smoking women. In the absence of significant lesions in the coronary arteries, further intracoronary tests can recognize the underlying cause of MINOCA. A diagnosis must be followed by initiation of appropriate therapy.

Citation

Zimodro JM, Mucha M, Gąsecka A, Chabior A. Coronary vasospasm resulting in myocardial infarction – a case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):91

EUROPEAN JOURNAL OF TRANSLATIONAL
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POSTER SESSION

The analysis of the level of knowledge in the self-examination of testicles among secondary school students

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Abstract

Introduction: Testicular cancer is a cancer that particularly affects young men. The ability to properly perform self-examination testifies to the early detection of the tumour. However, for young men to want to study, they must be aware of the risk and know the symptoms of the disease. **Aim:** The aim of the study was to assess the knowledge of secondary school pupils in the technique of self-examination of testicles, and also to draw attention to the disease of Materials and Methods: The survey included 79 male students aged 14-18 years. A questionnaire-based questionnaire, a pre-test and a post-test questionnaire were used. The study consisted of a questionnaire reply by the respondent before and after training on the self-examination of testicles. The study was conducted after obtaining The Research Ethics Commission's approval. Quantitative and qualitative characteristics were assessed in the evaluation. **Results:** Most respondents have never been interested in testicular cancer before. In the pre-test, only 31.65% of all respondents declared that they were self-examining testicles. Among the boys surveyed in the pre-test, up to 32.91% demonstrated insufficient knowledge and 34.18% were unable to assess their knowledge. In the post-test, a higher percentage of respondents who judge their knowledge on average or well was observed. It can therefore be concluded that the duration of the study was statistically significant, $p<0.0001$ related to the subjective level of knowledge of the prevention of testicular cancer. 40% of respondents are still interested in broadening knowledge on this subject, and therefore there is a need for health education on this subject. **Conclusions:** The workshops have produced positive results, which makes it possible to note that education in the topic of testicular cancer prevention in secondary schools is needed. In the post-test, a higher rate of correct responses was recorded for each question.

Citation

Mrozińska M, Kobak S, JaszczykJ, et al. The analysis of the level of knowledge in the self-examination of testicles among secondary school students. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):92

POSTER SESSION

Estrogen receptor β and nuclear factor kappa B participate in the alternariol- induced toxicity in ovarian cancer cells

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Abstract

Introduction: Mycotoxins are secondary metabolites of fungi that are commonly detected in food products. Their occurrence may be triggered by improper harvesting, transport or storage. Some of them are well known and the mechanism of their action is confirmed, however, some are still under research and are called *emerging mycotoxins*. Alternariol (AOH), one of the emerging mycotoxins, is mainly produced by *Alternaria* species. It is reported to possess an estrogenic activity in cells but its direct effect on estrogen-sensitive cells is not known. Previous research indicates that estrogen receptor β (ERβ) and nuclear factor kappa B (NFκB) participates in the estrogenic effect of mycotoxins in cells, however the effect in ovarian cancer cells is not know. **Aim:** The study aimed to verify whether AOH-induced toxicity in ovarian cancer cells is associated with the activity of ERβ and NFκB. **Material and methods:** Two ovarian *in vitro* models were used: SKOV3 cell line expressing both estrogen recpetors: estrogen receptor α (ERα) and ERβ, and A2790 cell line expressing only ERβ. SKOV3 and A2780 cells were treated with AOH (10μM) and with ERβ (PHTPP) and NFκB (BAY 11-7082) selective inhibitors for 24 hours. The viability of cells was evaluated with AlamarBlue assay. Oxidative stress was tested with Muse Oxidative Stress Kit (Luminex). Analysis of the superoxide dismutase 1 (*SOD1*) expression was evaluated with RTqPCR (LightCycler 96; Roche). One-way ANOVA test was used for statistical analysis. *P* value lower than 0.05 was considered statistically significant (GraphPad Prism software). **Results:** The results showed that blocking of NFκB or simultaneous blocking of ERβ and NFκB resulted in the increased viability of SKOV3 cells, while in A2780 cells only cells treated with NFκB inhibitor resulted in increased viability compared to AOH-treated alone. Moreover, it was observed that the lack of active ERβ and NFκB abolished the induction of oxidative stress by AOH in SKOV3 cells. In A2780 blocking of ERβ and NFκB had no effect on ROS production. We also verified whether oxidative stress was affected at the gene level. The effect of AOH was different between these two cell lines. In SKOV3 cells AOH increased the expression of *SOD1*, while in A2780 decreased. In SKOV3 cells, simultaneous blocking of ERβ and NFκB decreased the expression of *SOD1* to the control level, while in A2780 had no significant increase. **Conclusions:** The results showed that ERβ and NFκB participate in AOH-induced toxicity in ovarian cancer cells, however, this effect is probably strongly associated with the distribution of estrogen receptors in cells. Nevertheless, more studies should be done to confirm this hypothesis.

Citation

Kozieł MJ, Kowalska K, Habrowska-Górczyńska DE, et al. Estrogen receptor β and nuclear factor kappa B articipate in the alternariol- induced toxicity in ovarian cancer cells. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):93

EUROPEAN JOURNAL OF TRANSLATIONAL
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POSTER SESSION

Predictors of carotid atherosclerosis in patients with coronary disease

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Abstract

Introduction: Atherosclerosis is considered a generalized disease and the connection between coronary artery disease and peripheral atherosclerosis is significant. There are not many guidelines for the patients with asymptomatic carotid artery stenosis. **Aim:** The aim of this study is to evaluate frequency and predictive factors of carotid atherosclerosis in patients with coronary artery disease. **Materials and Methods:** This was a prospective observational study. We as pre-trained students, under doctor supervision, used the carotid ultrasound to detect the stenosis. We examined 20 consecutive patients, 5 females (25%) and 15 males (75%); the mean age was: 71,5. Carotid atherosclerosis was defined according to the newest guidelines. **Results:** Plaque in Carotid arteries occurred in 14 out 21 patients (67%). Those were older (74,9±7,9 vs 71,5±10,4 p=0,03) and their BMI more often was lower (27,1±3,4 vs 28,6±4,3 p=0,01) as well they were less often obese (14% vs 43% p=0,02). Although moderate plaques were observed with lower frequency in obese patients- BMI≥30 (14% vs 43% p=0,02), in patients using antiplatelet drugs (57% vs 71% p=0,02). Plaques in carotid arteries were more common in patients taking anticoagulant medications (14% vs 0% p=0,02). In stenosis positive population univariate logistic regression models revealed: age (OR=1,1; Cl 1,0-1,3; p=0,004) as positive, BMI (OR=0,6; CL 0,3-1,02; p=0,05), obesity (OR=0,3; CL 0,06-1,01; p=0,05) as negative predictors. In patients with moderate plaque it was revealed: antiplatelets (OR=0,25; Cl 0,6-0,97; p=0,04) as a negative predictor. The multivariable model showed that age (OR=1,12; Cl 1,001-1,25; p=0,04) was an independent predictor. **Conclusions:** The results of our analysis showed that carotid atherosclerosis was more often in patients with lower BMI, while obesity was a negative predictor. Older age was an independent positive predictor. Antiplatelet drugs were revealed as a negative predictor of moderate carotid stenosis.

Citation

Florek K, Błaszkiewicz M. Predictors of carotid atherosclerosis in patients with coronary disease. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):94

POSTER SESSION

The impact of COVID pandemic on perception of cough in adults with chronic cough

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Abstract

Introduction: Chronic cough (CC) significantly impairs patients' quality of life. During COVID pandemic cough has been considered as a cardinal symptom of SARS-CoV-2 infection. **Aim:** The aim of this study was to assess the impact of COVID pandemic on perception of cough in patients with CC. **Methods:** A survey, which included 13 closed questions, was conducted among 50 adults with CC who were treated in a cough clinic at Department of Internal Medicine, Pulmonary Diseases and Allergy between November 2021 and February 2022. **Results:** Forty six patients (27 women, 19 men) replied to the questionnaire. Median age of patient was 57 (46-68,7), median duration of cough – 6 years (3-10). Twenty three patients (50%) had SARS- CoV-2 infection confirmed by antigen or RT-PCR test, but increase of cough intensity was noted only in 52.5% of them (12/ 23). We did not find differences in perception of cough between the patients with CC, who had SARS-COV-2 infection and those, who did not. Due to the cough 30 out of 46 patients (65.2%) were suspected of SARS-CoV2 infection and 31 (67.4%) experienced unfavourable social reactions because of it. Wearing masks led to exacerbation of cough in 25 patients (54.3%). Despite it, only 7 patients (15.2%) noticed evident deterioration in control of their CC and only in 4 subjects (8.7%) previous antitussive treatment had to be modified due to COVID pandemic. **Conclusions:** During COVID pandemic majority of adults with CC were exposed to unfavourable social reactions what might negatively affect their quality of life. However only few of them noted deterioration of cough or needed escalation of antitussive therapy.

Citation

Rudzińska M, Banaszek Ł, Dąbrowska M. The impact of COVID pandemic on perception of cough in adults with chronic cough. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):95

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POSTER SESSION

The influence of lipoprotein apheresis procedure on serum fatty acid profile

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Abstract

Introduction: Lipoprotein apheresis (LA) is a procedure of extracorporeal removal of lipoproteins, mainly low-density lipoprotein cholesterol (LDL-C) and lipoprotein (a). Currently, a main indication for LA, except homozygous FH, is hyperlipoproteinemia (a). LA reduces Lp(a) concentration by 70-80% along with the rate of cardiovascular events. **Aim:** The purpose of this study was to determine the influence of LA on a fatty acids (FAs) composition in patients' serum. **Materials and Methods:** The serum samples of 28 patients were collected with lipid alterations in 3 time points – before LA, after LA and 7 days after LA. Analysis of FA profile was performed with gas chromatography-mass spectrometry (GC-MS). The obtained results were statistically analyzed by One-Way ANOVA (non-parametric – Kruskal-Wallis) using SigmaPlot 14.5. Statistically significant differences were considered at $p<0.05$. **Results:** After LA procedure the reductions of serum lipids were observed along with changes in FAs profile. Very long chain FA (VLCFA) and very long chain – monounsaturated FA (VLC-MUFA) were leached out of the blood in the greatest extent – 57%. These FA groups are main ingredient of LDL-C and due to their properties, they can damage blood vessels. On the other hand, iso-branched chain FA (iso BCFA) and anteiso-branched chain FA (anteiso BCFA) were leached out in the smallest extent (25% and 14%, respectively). BCFA have anti-inflammatory, anticancer and antibacterial properties. 7 days after LA, the levels of above groups of FAs return to their original levels, before LA. **Conclusions:** The study shows that LA significantly decreases level of FA in serum, with VLCFA in the greatest extent and BCFA in a smallest extent, with rebound effect during 7 days.

Citation

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POSTER SESSION

Proteomic analysis of sialoliths – identification of potential biomarkers of deposit formation in salivary glands

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Abstract

Introduction: Salivary stones, also known as sialoliths, are formed in a pathological situation in the salivary glands. So far, neither the mechanism of their formation nor the factors predisposing to their formation are known despite several hypotheses. While they do not directly threaten human life, they significantly deteriorate the patient's quality of life. **Aim of the Study:** The aim of the study is to characterise sialoliths and search for the biomarkers in their proteomes taking into account their division into different groups for understanding the processes leading to formation of solid deposits. **Materials and Methods:** In this work, we used mass spectrometry to perform qualitative and quantitative analysis to investigate the composition and select proteins that may contribute to solid deposits in the salivary glands. Twenty sialoliths, previously characterized spectroscopically and divided into the following groups: calcified, lipid and mixed, were used for the study. **Results:** The standard set of proteins for each type of salivary stone included 13 proteins, they differed type of regulation. Proteins unique for each of the groups were found, including: for the CAL group among them, e.g. proteins from the S100 group, mucin 7, keratins, neutrophil elastase or stomatin; proteins for the LIP group – transthyretin, lactotransferrin, matrix Gla protein, submandibular gland androgen-regulated protein 3; mixed stones had only 1 unique protein, fibrinogen alpha chain. Bacterial proteins present in sialoliths have also been identified. **Conclusion:** Thanks to the identification of common proteins in all three groups and unique proteins for each of them, the potential biomarkers leading to the solid deposits formations were found. Most such proteins were identified for the CAL type, and the MIX group was the least unique. The analysis of the results indicates the possible role of bacterial infections, disturbances in calcium metabolism and neutrophil extracellular traps (NETs) in the formation of sialoliths.

Citation

Musiał N, Czaplewska P, Bogucka A, et al. Proteomic analysis of sialoliths – identification of potential biomarkers of deposit formation in salivary glands. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):97

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POSTER SESSION

Pneumonia, an adverse effect of inhaled corticosteroid therapy in patients with chronic obstructive pulmonary disease?

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Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) affects up to 8% of the population worldwide. A class of drugs used in the treatment of COPD are inhaled corticosteroids (ICs). Their use, however, in this particular indication has been reconsidered in recent years given the potentially increased risk for developing pneumonia (PNE). **Aim:** To summarize knowledge about the risk of PNE as an AE of IC therapy in COPD patients using data published between 2015 and 2022, and suspected AEs of ICs reported to the Czech State Institute for Drug Control (SÚKL in Czech) in 2015-2020. Materials and Methods: A critical review of relevant landmark studies included in PubMed over the last 7 years, and an analysis of notifications received by SÚKL in 2015-2020. **Results:** Recent studies have confirmed increased risk of PNE in IC-treated COPD patients. Individual ICs differ in the degree of risk of PNE, with fluticasone (FLU) carrying a higher risk than budenoside (BUD). Increased PNE rates were reported to be associated particularly with high-dose IC. A safe dose is defined as one <400 µg/day BUD or its equivalent. Over 2015-2020, SÚKL received a total of 51 notifications of AEs of IC, with only 3 reporting PNE as an AE attributable to FLU (3 out of 30). However, the notifications contain also information about symptoms possibly suggesting active lower airway and lung infection attributable to FLU (9 out of 30). **Conclusions:** Numerous studies have confirmed an increased risk of developing PNE in IC-treated COPD patients, particularly related to the medicinal substance and its dosing. While the number of notifications of suspected AEs was fairly low, the notifications received by SÚKL support, to an extent, the conclusions of studies published to date.

Citation

Šimandl O, Mlíchová J, Kmoníčková E, Paluch Z. Pneumonia, an adverse effect of inhaled corticosteroid therapy in patients with chronic obstructive pulmonary disease?. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):98

POSTER SESSION

Medical staff fatigue during COVID-19 pandemic – 2020 and 2022 data

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Abstract

Introduction: Attention is the system responsible for selecting data flowing from the external environment and protecting from excessive accumulation of them, which results in overloading the cognitive system and leads to its dysfunction. Attention is strongly related to the energy spent on the selection process. Excessive stimuli coming from the environment require the expenditure of large amounts of energy, which, when they last for a long time, leads to fatigue. This is exactly the problem faced by health care workers, especiely during the COVID-19 pandemic. **Aim:** The aim of the study is to determine the changes that have occurred among health care workers related to the fatigue they experience, its effects and what influenced it during the Covid-19 pandemic and how its intensity evolved over the course of the pandemic. **Materials and Methods:** A diagnostic survey method was chosen to conduct the survey. The diagnostic survey method was selected for the study, using questionnaire: HADS – M scale – Chalder Fatigue Questionnaire – PL and sociodemographic data and questions about stressors. The obtained data were subjected to statistical analysis. The significance level was taken as $p<0.05$. **Results:** The results show that medical staff fatigue was higher at the start of the pandemic than in 2022 ($p=0,0042$). The most frequently cited variables correlating with fatigue in 2020 and 2022 were anxiety, depression and low satisfaction with current life. **Conclusion:** Based on a detailed analysis of the data collected in 2022 and comparing it with the 2020 data, we want to introduce specific solutions to reduce the level of psychological disorders among health care workers resulting from including chronic fatigue, associated with the COVID-19 pandemic.

Citation

Kwiatkowska W, Szablewska A, Czerwińska-Osipiak A, et al. Medical staff fatigue during COVID-19 pandemic – 2020 and 2022 data. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):99

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POSTER SESSION

Histologic transformation of mantle zone lymphoma to diffuse large B-cell lymphoma: a case report of disease relapse after covid-19 infection

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Abstract

Introduction: Mantle cell lymphoma is a rare subtype of non-Hodgkin's lymphoma, which may develop into other subtypes, such as diffuse large B-cell lymphoma, which is the most common among all non-Hodgkin's lymphomas. Usual clinical features of diffuse large B-cell lymphoma include quickly growing, non-painful mass, enlarged lymph nodes in the neck, groin and/or abdomen, fever, night sweats, weight loss. Current data of COVID-19 infection risk and outcome in patients with non-Hodgkin's lymphoma, receiving chemotherapy and immunosuppression treatment, is variable and insufficient. We report a case of histologically confirmed transformation of mantle zone lymphoma to diffuse large B-cell lymphoma, the disease relapse after COVID-19 infection. **Case description:** We present a 58-year-old female patient, who had a history of abdominal pain episodes associated with fever, diarrhea and nausea in 2017. Biopsy of colon revealed mantle cell lymphoma. Patient received polychemotherapy courses with Rituximab, Cyclophosphamide, Vincristine, high dose Cytarabine and Cisplatin. In the 2020 disease relapsed. Therapy with Rituximab and Bendamustine was continued. In 2021 disease relapsed again and lymphoma's transformation to diffuse large B-cell lymphoma was histologically confirmed. After the high dose chemotherapy (Rituximab, high dose Cytarabine and Cisplatin), autologous stem cell transplantation was performed. The Moderna vaccine against COVID-19 was received twice. Positron emission tomography showed complete metabolic remission. 6 months prior to case presentation diffuse large B-cell lymphoma has relapsed after COVID-19 infection, which was diagnosed in February 2022. The patient received Remdesivir antiviral therapy, followed by specific therapy courses with Rituximab, Bendamustine and Polatuzumab. COVID-19 infection returned in July 2022. Lymphoma dynamic was negative. Chemotherapy was changed to Vinblastine, Cyclophosphamide and Bleomycin – with a positive effect. Overall patient condition at present is dynamically positive. **Conclusions:** In this report, we show a patient with diffuse large B-cell lymphoma setback after COVID-19 infection. Even after antiviral therapy COVID-19 patients with hematologic malignancies may have prolonged active infection with impaired viral excretion. **Summary:** Current study demonstrates a case of multiple lymphoma relapses with following chemotherapy courses, COVID-19 infection setbacks after vaccine due to intense immunosuppression.

Citation

BancevičaL. Histologic transformation of mantle zone lymphoma to diffuse large B-cell lymphoma: a case report of disease relapse after covid-19 infection. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):100

POSTER SESSION

Mediastinal and retroperitoneal fibrosis diagnosing challenges: a case report of rare disease

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Abstract

Background: Mediastinal and retroperitoneal fibrosis is a rare condition that is characterized by fibrous tissue proliferation in the mediastinum and retroperitoneum. The cause is usually benign, such as infection, immune disorders, systemic fibro-inflammatory dysfunction, and treatment-related conditions, but the mechanism is unknown. Since vascular structures are compressed, mediastinal and retroperitoneal fibrosis can be mistaken for cancer. Imaging studies are necessary to verify the presence of an infiltrative process in the mediastinum and retroperitoneum, to rule out malignancy, and to assess structural integrity. A biopsy is required to confirm the diagnosis. The issue of involving formal histological proof to preserve fibrosis diagnosis in the face of imaging is significant. **Case report:** A 63-year-old man came to the hospital with abnormal heart rhythm, episodes of atrial fibrillation, and high blood pressure. Laboratory tests were normal. A chest x-ray showed a widened upper mediastinum, an additional shadow along the aortic arch on the right. It was decided to perform a CT scan. In the CT image, multiple lymph nodes are up to 2.8x1.8 cm in size, which can be seen para-aortally, paracavally, in the paratracheal area, neck, and axilla. In other areas of the chest, the lymph nodes are structural, small, and do not merge. It was decided to perform a mediascopy due to most data were for lymphoproliferative disease and oncological processes. After the biopsy was performed, histopathology of the lymph nodes revealed fibrosing mediastinitis and retroperitoneal fibrosis. **Discussions and conclusion:** This case highlights the challenge of diagnosing mediastinal and retroperitoneal fibrosis, a rare disease, based on suggestive radiological and pathological findings. Histopathological examination and immunohistochemistry can help to rule out a neoplastic infiltration of tissue, and establish the diagnosis. Due to its rarity and variable clinical presentation, mediastinal and retroperitoneal fibrosis can be difficult to diagnose.

Citation

Sondaitė M, alčiūnaitė I, Dobrovolskienė L. Mediastinal and retroperitoneal fibrosis diagnosing challenges: a case report of rare disease. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):101

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POSTER SESSION

First time experience curing post traumatic Morel – Lavallée lesions: a case report

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Abstract

Background: The Morel – Lavallée lesions (MLL) is an injury associated with high – energy trauma when a closed soft – tissue degloving occurs. Common locations for MLL are the thigh, hip and pelvis. Trauma mechanism leads to the tears of lymphatics and blood vessels, which results in fluid accumulating in between tissues. Fluid accumulation leads to a chronic inflammatory reaction, and the lesion can encapsulate with necrotic fatty tissue, blood, fibrin inside of the capsule. **Case discussion:** 66 year – old female was first taken to the emergency room (ER) after a car accident, no injuries were detected radiographically. After a month she came back to the ER due to left leg pain, swelling and function disturbances. 1500 ml of hemorrhagic fluid was drained from the knee. In computer tomography (CT) no bone fractures were detected but in the soft tissues an 18.7 x 8.15 cm fluid accumulation was found. Patient came into the ER again after 3 days due to unhealing wounds and continuous pain. The knee joint was swollen, wounds were necrotic and painful with limited function due to pain. Her blood tests showed a c-reactive protein increase to 437 mg/l. A incision, debridement, lavage and drainage was performed and growth of S. Aureus was detected. Broad – spectrum antibiotics sol.Unasyn 1.5 g and sol.Vancomycin 1g were prescribed twice a day. 5 days later histology analysis showed hemorrhage with infiltration, fibrin and capillaries. 3 days later a revision surgery was performed, and a growth of Aeromonas Hydrophila was detected. Same broad spectrum twice a day was prescribed again. **Conclusion:** After a high – energy trauma, radiographic tests did not show any damage and the patient was sent home. However, ER doctors must‘ve associated the trauma mechanism and these lesions and insist on additional investigation with a traumatologist two weeks later.

Citation

Imbrasaitė G, Ramonaitė J, Subačius K. First time experience curing post traumatic Morel – Lavallée lesions: a case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):102

POSTER SESSION

Young adult with bone metastasis in breast cancer: a case report

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Abstract

Introduction: Breast cancer is the most commonly diagnosed malignancy and leading cause of cancer-related death among women worldwide (1). About 75% of deaths are related to the development of metastases (2). The occurrence of breast cancer metastases in the bones is determined by the size of the tumor, damage to the lymph nodes, histological grade, hormone receptor status and human epidermal growth factor receptor 2 (HER2) (3). Bone metastases – one of the most common and associated with shorter survival (4). **Case discussion:** 38 years old women went to the hospital because of increasing pain in the groin area. In 2016, she was diagnosed with invasive ductal carcinoma of the right breast (ER+, PR+, HER2-), then neoadjuvant chemotherapy was prescribed and a mastectomy was performed, no metastases were observed. After surgery, radiation and hormone therapy were prescribed. The patient was consulted by an orthopedic oncologist due to a suspicion of impending pathologic fracture of the right femur, caused by metastatic breast cancer. Magnetic resonance imaging showed destruction of the right femur at the lesser trochanter – signs of impending fracture. A biopsy was performed and metastases of invasive ductal carcinoma were detected with reaction of tumor cells ER+, PR+, HER2-. Radical resection of the right femur and endoprosthesis with MUTARS system were performed. In histological examination, the spread of tumor infiltration into the surrounding soft tissues was observed, radiation therapy was prescribed. Currently, the patient is being treated with palliative radiation therapy due to newly identified metastases in the mediastinum and liver. **Conclusions:** Invasive ductal carcinoma is not the most aggressive but follow-up of the patient for the occurrence of metastases in the bones is necessary because metastatic breast cancer among young women represents a serious public health issue.

Citation

Ramonaitė J, Imbrasaitė G, Markevičiūtė V, et al. Young adult with bone metastasis in breast cancer: a case report. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):103

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POSTER SESSION

Primary fallopian tube carcinoma: a case report of rare disease

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Abstract

Background: Primary fallopian tube carcinoma is considered one of the rarest cancers of the female reproductive system. Recent data indicate that most high-grade serous ovarian cancers arise from the ciliary ends of the fallopian tubes. Primary fallopian tube carcinoma has similar characteristics to ovarian cancer, including a typical course of metastasis in peritoneal, pelvic and para-aortic lymph nodes. Preoperative diagnosis of primary fallopian tube cancer is rare. Clinical signs and symptoms are non specific. Because of this, early radiological diagnosis is a relevant diagnostic problem. Often, as in our patient, the disease is asymptomatic and diagnosis is made postoperatively in women undergoing surgery. Histological examination of surgical specimens provides a definitive diagnosis. **Case report:** Our case concerns a 73-year-old patient presenting for a routine gynecological examination. The patient is followed up by gynecologists after endometrial polyp removal surgery. Her personal medical history reports chronic gastritis. Menopause started when she was 55. During transvaginal ultrasound, a 5.8x3.5x5.4 cm solid formation is detected near the right ovary with intense blood flow and free fluid nearby. MRI is then ordered to investigate this issue. On MRI images the mass had heterogeneous contrast enhancement on postcontrast MRI and restricted diffusion on DWI, giving it the appearance of a fallopian tube tumor. Total hysterectomy, omentectomy, removal of ileocecal and para-aortic lymph nodes, and peritoneum biopsy were performed. Postoperatively, histological examination of the surgical specimens confirmed high-grade serous carcinoma of the fallopian tube. After surgery, she was referred to an oncology center and placed under medical supervision. The patient received six cycles of chemotherapy with carboplatin and paclitaxel. CT images after chemotherapy revealed no enlarged lymph nodes, suspicious masses, or cancer recurrence. **Discussion and Conclusion:** Primary fallopian tube cancer is a challenge. A current diagnostic issue is early radiological diagnosis. Complete surgical resection of the disease, including pelvic lymphadenectomy, followed by adequate cycles of postoperative chemotherapy is an important strategy to improve the prognosis of patients.

Citation

Sondaitė M, Atstupėnaitė V, Pikūnienė I. Primary fallopian tube carcinoma: a case report of rare disease. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):104

POSTER SESSION

Description of *Conus Medullaris* and its blood supply from the anteriorly dissected approach

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Abstract

Introduction: *Conus medullaris* is the tapering of the lower part of the spinal cord. There are only a few anatomical studies on *conus medullaris* describing its morphology and blood supply. **Aim:** The study aimed to dissect *conus medullaris* and describe its topographical anatomy and blood supply from the anterior approach. **Material and methods:** For the practical approach, the Institute of Anatomy and Anthropology provided the *cadaver*. One *conus medullaris* and its blood supply were studied on the spinal cord. *A. radicularis magna* (*a. Adamkiewicz*) on the anterior part of the spinal cord was colored for a better view. Dimensions of the *conus medullaris* was measured with a Vernier caliper with the least count of 0.01 mm. **Results:** *Conus medullaris* was located at the 1st lumbar vertebra body level although the location where the spinal cord continues into *conus medullaris* was hard to define. The transverse diameter of *conus medullaris* at its origin was 9.0 mm and it was in the normal range (8.0-11.0 mm) that was also given in a study by *Grogan et al.* (1984). The spinal cord was covered in its entire length by a net-like anastomosing vascular system. The anterior trunk was directly connected to the posterior ones by arterial circles at the *conus medullaris* (*rr. cruciantes*). *A. Adamkiewicz* was identified as originating from the left side of the aorta as it is mentioned in the study by *Shane Tubbs et al*. (2016). Other blood vessels supplying the terminal end of the spinal cord were not identified due to their minor size. **Conclusions:** The effective anastomotic function might explain the difficulty in demonstrating different areas of supply in the *conus medullaris* region. Anatomical variations of *conus medullaris* location in the spinal canal can be challenging for medical professionals in cases of invasive procedures.

Citation

Volfa L. Description of Conus Medullaris and its blood supply from the anteriorly dissected approach. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):105

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POSTER SESSION

The first case of non-responsive to standard treatment, a rare type of sinonasal tumour in an adolescent female

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Abstract

Introduction: Biphenotypic Sinonasal Sarcoma (BSNS) represents a rare type of mesenchymal tumor, usually presented in women in their fifth decade. The treatment of choice is a surgical procedure. Despite radical removal, locoregional recurrences are common, reaching up to 50 %. So far, no distant metastases have been observed in patients diagnosed with BSNS. The overall prognosis remains good. Here, we report a rare case of a teenager with no-responsive to treatment BSNS. **Case discussion:** a 15-year-old patient was admitted to the Otolaryngology Department with an obstructed nasal cavity and watery nasal discharge for about a year. MR revealed an irregular mass in the middle turbinate of the right nasal meatus and total obstruction of the ostiomeatal complex. Endoscopic examination showed a mass that obstructed the patient's posterior nostrils. Histopathologic results confirmed a biphasic sinonasal sarcoma diagnosis. The patient was qualified for surgical treatment. 5 months later, MRI confirmed the recurrence of the disease in the nasal cavity and penetration into the anterior cranial fossa. Due to recurrence, the patient was qualified to receive chemotherapy. After seven weeks of unsuccessful treatment, the patient was treated with second-line chemotherapy with no response. After 4 weeks, as a fourth line of treatment, a radiotherapy was applied to the patient. **Conclusions:** To our knowledge, it is the first case of metastatic Biphenotypic Sinonasal Sarcoma which was diagnosed in adolescence and did not respond to the multiple lines of treatment. The overall reported prognosis for the patients was good. Up to this date, only three cases of death were reported due to intracranial extension of the tumor, conversely to our patient, who received multiple lines of treatment. Analyzing available literature on other cases of Biphenotypic Sinonasal Sarcoma, the therapeutic approach is not yet established, making its management even more difficult.

Citation

Kamińska A, Kwiatkowska N, Samborska M, Derwich K. The first case of non-responsive to standard treatment, a rare type of sinonasal tumour in an adolescent female. Eur. J. Transl. Clin Med. 2023;6(Suppl. 3):106