Abstracts of the 6th Edition International Medical Students' Congress of Bucharest (IMSCB)

IJMS International Journal of Medical Students

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Introduction

The International Medical Students' Congress of Bucharest (IMSCB), is one of the greatest events to happen every year at the beginning of winter, within the walls of our university – Carol Davila University of Medicine and Pharmacy, Bucharest, Romania. Our Congress has its own unique history with its origins spanning back to the creation of our student society in 1875. After the second world war (when society activities were suspended), it was re-established in 1990, with our first ever congress taking place in May of 1998. Then in 2017 the decision was made to open up our congress to the rest of the world by founding the International Medical Students' Congress of Bucharest.

As medical students intrigued by the never-ending beauty of curiosity and innovation in healthcare, we have confronted ourselves with plenty of obstacles throughout our path in the scientific world. Ambition, and the conviction that we can be the change that the world needs have led us to pursue our dreams despite every closed door.

We believe that young talents and bright minds should be encouraged to showcase their take on various scientific topics and to explore their out of the ordinary ideas. So, last year, we provided an environment where research opportunities are more accessible and where activating in science can become a normality, not a particularity.

The following 34 abstracts demonstrate the hard work of students participating in the 6th edition of our congress (which took place at the end of 2022). As well as our profound gratitude towards the tireless efforts of the medical and scientific community during these two years of global pandemic.

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01. **CONSULTING DR. GOOGLE - THE QUALITY OF ONLINE MEDICAL INFORMATION REGARDING HYPERTENSION**

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INTRODUCTION: Hypertension represents a serious health issue. It can be considered both a disease and a risk factor for other pathologies (stroke, cardiac insufficiency, etc.). Taking into consideration that the general population has unlimited access to the Internet, it is mandatory for websites to contain proven, valid and high-quality information about this matter. **METHODS**: This observational, cross-sectional study included 25 Romanian and 25 English websites. Pre-established inclusion and exclusion criteria were used for sample selection. Credibility was assessed using 12 criteria based on the eEurope 2002 expert recommendations. Completeness and accuracy of information were evaluated using a quality standard based on information from literature and guidelines, reviewed by two cardiologists. The credibility, completeness and accuracy scores were rated on a scale from 0 to 10. Student t test and Mann-Whitney U were used to compare the two languages subsamples. Spearman and Pearson's tests were applied to test the correlations. The threshold for statistical significance was set at 0.05. **RESULTS**: The average credibility score was 4.7 for the Romanian websites and 5.6 for English websites (p=0.0686). The average completeness score was 3.7 for the Romanian websites and 5.3 for English websites (p=0.0007). The average accuracy score was 3.88 for the Romanian websites and 3.62 for English websites (p=0.5215). Significant moderate intensity correlation was found between the Google rank and the accuracy of the Romanian websites (r=-0.5438, p=0.0050). **CONCLUSION**: The overall quality scores of the Romanian and English websites presenting information about hypertension were modest. Although the completeness score of the English websites was above the score of the Romanian websites, the accuracy score was slightly higher for the Romanian websites. This study found a correlation between the Google rank and the accuracy score of the Romanian websites but since this was the only significant correlation found, it cannot be used as a general recommendation. Therefore, there is no significant advantage in knowing not only the Romanian language but the English language too, in terms of quality information found online about hypertension. The Google rank cannot be used as a quality indicator since there is no consistent correlation between it and the quality scores.

Key Words: Hypertension, Google, Online information, Accuracy, Completeness, Credibility.

02. **DETECTION AND DAMPENING OF CAFFEINE CONSUMPTION ON EEG RECORDINGS THROUGH QUALITATIVE ANALYSIS OF RELEVANT DATASETS**

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INTRODUCTION: Brain-computer interfaces (BCIs) manage to establish communication mediums between the central nervous system (CNS) and certain electronic devices. This paper aims to come up with ways to detect and tackle the effects of caffeine consumption on electroencephalography (EEG), which all too frequently lead to the nullification of sleep or epilepsy studies. **METHODS**: The COVID-19 pandemic has led to EEG laboratories being unavailable for the purpose of this study. Thus, the datasets needed for the development of the MATLAB pipeline have been selected from the scientific literature available, more precisely from an April 2020 study by Pradhan et al. **RESULTS**: For the purpose of automatic caffeine consumption detection, the algorithm developed is one of elegant simplicity. Caffeine's effects across the brain are non-uniform. These can be exploited through the use of ANOVA which is able to return a variance coefficient between the three regions with the biggest discrepancies in the changes of mean EEG values, thus demonstrating caffeine consumption. Filtering out the effects of caffeine consumption is of considerable complexity. The algorithm must first recognise that caffeine was consumed, which is done through the ANOVA method. The pipeline then correlates the variance coefficient to a factor of multiplication of an eigenvector such that the power of the EEG recording is increased in proportion to the consumed caffeine. **CONCLUSION**: Thanks to caffeine's resemblance to other compounds of the methylxanthine class, the algorithms presented in this work could be of use against theobromine's or theophylline's effects on the CNS. More work needs to be done with regard to the synergetic interactions between different psychopharmaceuticals, with special considerations given to the caffeine-l-theanine, caffeine-ethanol and caffeine-nicotine pairs. The end goal would be the creation of a global algorithm or pairs of algorithms capable of detecting any combination of psychoactive drugs (not just dual caffeine pairs) and tackle their effects on the BCI in question.

Key Words: Caffeine, EEG, MATLAB.

03. **THREE-DIMENSIONAL PATHOLOGY USING A MULTIMODAL MICRO-CT IMAGING STRATEGY**

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INTRODUCTION: Classical pathology involves examining multiple 2D microscopy slides. However, this planar approach fails to render the complete spatial configuration of pathological specimens. Developing on the micro-CT scan technique, an algorithm which is similar to classical CT scans, we propose an improved version which allows 3D reconstruction from sequential microscopy slides. Moreover, our mathematical representation allows us to concatenate multiple descriptors such as colour and fluorescent marker intensities in a compact and easy to understand representation. **METHODS**: Images of the whole tissue slides were acquired using the Aperio LV1 scanner, resulting in over 50 consecutive colon tissue sections and 20 carotid artery sections cut 50 µm apart, coloured with H&E. 20 more carotid artery slides had been stained for SMA (smooth muscle actin) and Mac2 (macrophage) markers. Their colour spaces were converted from RGB (Red Green Blue) to HSV (Hue Saturation Value). Noise filtering was applied by Gaussian blurring. Over-segmentation was performed using SLIC (Simple Linear Iterative Clustering), producing an intermediate model, refined using a region adjacency graph with a custom metric. An autoencoder was also compiled and trained on the same images. The final 3D model was built with the marching cubes algorithm. **RESULTS**: Segmentation results are similar for AI and parametric approaches. Compared to RGB, the HSV colour space is able to detect more subtle colour changes and results in a finer 3D reconstruction. We modelled a colon polyp and noticed that the mucosal and connective tissues were automatically segmented. We also modelled an atherosclerotic carotid artery. Our protocol was able to detect and classify the endothelium, arterial laminae, fatty plaque and inflammatory tissue from H&E and immunohistochemical stains. **CONCLUSION**: Pathological specimens were modelled using parametric and AI techniques. We obtained multimodal 3D representations of the studied samples as our protocol allows for multiple channels of data to be combined into one single representation. The final models can be used as input for more advanced machine/deep learning techniques. Investigating the 3D characteristics and features of human specimens can significantly impact entire fields, such as the diagnostic pathology and biomedical research.

Key Words: 3d pathology, Digital pathology, Diagnostic pathology, Image segmentation, Machine learning.

04. **THE ROLE OF ARTIFICIAL INTELLIGENCE ALGORITHMS IN SUPPORTING TWO-WAY COMMUNICATION BETWEEN DEAF-MUTE AND DOCTORS**

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INTRODUCTION: Artificial intelligence has changed, is changing and will change people's lives from the ground up. With the help of artificial intelligence technologies, new levels will be reached in medical research. In the context of our research, such an advanced level of research involves solutions aimed at reducing people's mental and/or physical deficiencies and speed up the networks of actors in the field of health. For this reason, the next decade will be decisive in the symbiosis between technology and people with disabilities, but especially between artificial intelligence and deaf-mute people. **METHODS**: Our research began with the identification of the most relevant studies in the field in order to structure a clearer picture of the use of artificial intelligence solutions in supporting people with disabilities, especially deaf-mute people. We searched for results using keywords such as \"machine learning\"; \"deep learning\"; \"\"deaf-mute\" and \"artificial -intelligence\", and then we chose the most relevant articles for our review so that it would be a useful source of concise information. This review summarizes the progress of the industry and artificial intelligence algorithms in an attempt to assist deaf-mute patients as much as possible. **RESULTS:** Some articles showed us the importance of training artificial intelligence algorithms, in order to perfect the translation and interpretation of hand movements (gesture recognition) in the medical context, and other articles showed us the social and psychological importance of such a system, when a deaf- mute can be independent and consult a doctor whenever needed, without help from the translator, the deaf-mute patient being almost completely independent. **CONCLUSION**: In modern times, we need more and more technology to overcome the linguistic barriers between sudo-mutes and doctors. With the help of new machine learning techniques, we can change the bidirectional communication between 2 worlds in an unprecedented way and we can expect a change in prophylaxis among people with hearing impairments, because they will be able to ask the doctor\'s opinion or as many times as needed.

Key Words: Artificial intelligence; Deaf mute; Machine learning.

05. **EVALUATING ANTICANCER DRUG ACTIVITY: MTT VERSUS CLONOGENIC ASSAY. ARE THE RESULTS MISLEADING?**

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INTRODUCTION: The main step of in-vitro cancer research is the cytotoxicity assessment of chemotherapeutic agents. Chemosensitivity assays evaluate post-treatment cell viability, either by the cells' ability to form colonies: clonogenic survival assay (CSA) or by their metabolic property of converting 3-[4,5-dimethylthiazol-2-yl]-2,5 diphenyl tetrazolium bromide (MTT) into purple-coloured formazan crystals. The measured outcome is a half maximal inhibitory concentration (IC50) value, that should theoretically be the same in both these tests. Realistically, scientists encounter discrepancies when correlating their results, hence we wonder: should we trust any of these assays?. **METHODS**: This review is based on 15 articles published from 1989-2022 and selected from PubMed and Google Scholar using the mentioned key words. The primary inclusion criterium was the existence of a comparison between CSA and MTT assay results (comparative studies or systematic reviews). While excluding any other types of non-clonogenic assays (biochemical, apoptotic or genotoxicity tests). **RESULTS**: A high correlation between MTT and CSA is mentioned in 7 out of the 15 articles. On the one hand, 4 studies recognise the advantages of the MTT assay: its simplicity, low cost, high reproducibility, shorter duration and lower requirements in plating efficiency. Even if 7 studies point out a higher sensitivity, these overestimated IC50 values are not confirmed by other methods. On the other hand, CSA gave the most reliable, dose-dependent index of cell lethality in 4 comparative studies, being able to identify not only cytotoxic but also cytostatic drug activity. However, one study marks its disadvantages as being timeconsuming and with no application on non-adherent cell lines. **CONCLUSION**: Both tests deserve their popularity amongst cancer-cell researchers, since they are a valuable tool for determining the IC50 of chemo or radiotherapy, which is the first step in discovering new tumour targeted treatments. With this common goal in mind, their indications must also be considered. Namely, using CSA for assessing long-term cell proliferation with high accuracy, and MTT only for obtaining numerous short-term treatment results.

Key Words: Cell viability test, Antineoplastic acitivity, MTT assay, Clonogenic assay.

06. **PULMONARY TUBERCULOSIS - RESEARCH PAPER**

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INTRODUCTION: One of the most studied contagious maladies is tuberculosis(TB) and its effects . Its wide spread across the globe grants pulmonary tuberculosis a particular spot in the scope of contagious maladies, this branch alone makes up to 90% of all tuberculosis cases. The purpose of this study is to identify and analyse the most important as well as the minor behavioural factors whose existence have the capacity to affect and influence the evolution of PT. Another objective is to outline the importance of risk factors associated with behaviour to help devise a new prophylactic approach with regard to PT. **METHODS**: Descriptive observational study in a transversal approach. A sample of 90 patients that were admitted at the "Marius Nasta" Institute of Pneumophysiology, between the 10th of June and 10th of August 2022 were subjected to an interview. **RESULTS**: Over 70% of the evaluated patients were heavy smokers (over 20 cigarettes/day). Up to 80% of the cases prophylaxis was inexistent. No apparent knowledge of past PT infections within their social groups. 3 times more patients are from rural areas than from urban areas . TB is twice as prevalent in men than in women . 94% of patients have a monthly income below 300 euros. **CONCLUSION**: Lack of prophylaxis associated with risk factors (smoking, HIV infections, diabetes, alcoholism, etc.) makes tuberculosis an endemic disease. Therefore, to help minimize the widespread impact and mortality due to infection, larger screenings of social groups and increased awareness are in need.

Key Words: Pulmonary Tuberculosis ; Factors of behavior ; Pathology correlation ; History ; Stop TB Strategy ; Risk factor.

07. **ATHERODENT**

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INTRODUCTION: This study focused on the function of periostin (Pn) and inflammatory biomarkers to evaluate the relationship between periodontal disease, systemic inflammation, and atherosclerosis. **METHODS**: The research included 92 individuals with acute coronary syndrome. The patient population was separated in to 2 groups based on the median value of serum Pn, which was 30.63. 46 patients in group 1 had low Pn levels, whereas 46 patients in group 2 had high Pn levels. **RESULTS**: Heart failure (p=0,002) and atrial fibrillation (p=0,005) were more common in the high Pn group, as well as STEMI type ACS (p=0,04). As seen by higher blood levels of CK-MB (p=0.009), myocardial necrosis was also more severe in the high Pn group, necessitating longer hospitalisation for these patients (p=0.008 forlength of stay in the hospital and p=0.004 for overall length of stay in the cardiac critical care unit). Serum albumin (4,08 0,34 mg/dl vs 3,08 1,46 mg/dl, p=0.02) and MMP9 (201 69,37 pg/ml vs 132,7 112,2 pg/ml, p = 0.003) levels were higher in patients from group 2. Additionally, individuals with high Pn levels showed higher levels of LDL cholesterol (p=0.0008) and tryglicerides (p=0.02), which implies a greater risk of cardiovascular disease. This suggests that greater serum levels of Pn are associated with elevated levels of MMP9, which are similarly linked to myocardial infarctions that are more severe. In patients suffering from severe kinds of ACS, red-complex germs (P. gingivalis, T. forsythia, and T. denticola) were detected more frequently than orange-complex germs (p=0,0008), and red-complex germs were correlated with a greater lymphocye-to-monocyte ratio (10.9 +/- 12.75 vs 3.2 +/- 1.44, p=0.01). **CONCLUSION**: Periostin, an inflammatory protein linked to periodontal disease, and the prevalence of red complex germs in the parodontal pocket are linked to an increased risk of acute coronary syndromes, particularly a more serious form of myocardial infarction.

Key Words: Periostin, Inflammation, Periodontal disease, Heart failure.

08. **EVALUATION OF THE CORONARY ARTERY PLAQUE INFLAMMATION IN POST-COVID PATIENTS WITH THE HELP OF ANGIO-CT AND ARTIFICIAL INTELLIGENCE**

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INTRODUCTION: This study is based on a novel parameter, the FAI score (fat attenuation index score) which assesses coronary inflammation with the help of artificial intelligence. The objective of this study was to explore the different characteristics of the FAI score in the case of individuals who, following a COVID-19 infection, were subjected to an AngioCT examination. **METHODS**: The study population consisted of 67 patients who presented to the hospital with angina and a coronary lesion. Patients were divided in two groups: group 1 consisted of 35 patients who had a COVID-19 infection a few weeks before the examinations, while group 2 consisted of 32 patients who had no previous COVID-19 infection. The 2 groups were gender-matched. The FAI score was determined for each patient included in the study. **RESULTS**: There was no relevant distinction of the FAI index between the two study groups (13.7 +/- 9.3 vs 13.6 +/- 13.0, p=0.06). Nontheless, it has been revealed based on the FAI analysis of the coronary fat distribution that patients previously infected with COVID-19 had a higher degree of inflammation in their right coronary artery compared to the left coronary artery. This difference was not significant in the case of patients from non-covid group. Statistically, in the COVID group right coronary FAI was calculated as 18.6 +/- 16.3, while left coronary FAI was determined to be of 11.1 +/- 10.0 (p=0.03). Additionally, in the case of patients who had not suffered previously a COVID-19 infection, a relevant distinction could not be established (16.1 +/- 12.0 versus 12.7 +/-7.4, p=0.3). **CONCLUSION**: Covid-19 infection is linked to a higher degree of inflammation which could lead to coronary plaque vulnerabilisation. The impact of local inflammation on plaque vulnerabilisation depends on local factors at the level of coronary arteries. This may be related to the different hemorheologic pattern of the right coronary artery flow, RCA being larger and having less branches than left coronary artery. The particularities of RCA flow make this artery more prone to plaque vulnerabilization as a result of a local inflammatory stimulus, as in COVID-19 infection. Furthermore, the fat attenuation index is a helpful way of prevention of early detection of an acute coronary lesion.

Key Words: Inflammation, COVID-19, Artificial intelligence, Fat attenuation index.

09. **TICAGRELOR DOWNREGULATES THE EXPRESSION OF PROATHEROGENIC AND PROINFLAMMATORY MIR125-B COMPARED TO CLOPIDOGREL**

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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 (miR125b) we hypothesized that the release of miR-125b is more efficiently inhibited by ticagrelor compared to clopidogrel. **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 form 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 miR125a-5p and miR-223 was not affected by the switch from clopidogrel to ticagrelor. **CONCLUSION**: 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.

Key Words: ADP receptors; antiplatelet drugs; miRNA; platelets; ticagrelor.

10. **EYES ON PSYCHOLOGICAL TRAITS ETIOLOGY IN PRADER WILLI SYNDROME, A PAEDIATRIC CASE REPORT**

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CASE PRESENTATION: A male patient, at the age of 4 years old, diagnosed with PWS during the neonatal period was referred to the cardiology department of Victor Gomoiu Paediatric Clinical Hospital in 2019, for the investigation of an atrial septum defect. To note that the pregnancy had intrauterine growth retardation in the third trimester. The association of marked muscular hypotonia with elements of craniofacial dysmorphism raised the suspicion of PWS. Molecular analysis shows the characteristic genetic defect which confirms the diagnosis of PWS. Multidisciplinary evaluation of patient: 1) ENT consultation – nasal septum deviation, chronic hypertrophic rhinitis; 2) Cardiologic and Gastroenterology consultation – Within normal limits 3) Psychological consultation (QI/QD = 45-50) 4) Neurological consultation – neuromotor and language development delay. Mental retardation. Attention disorders. Hyperkinetic syndrome with aggressiveness. The paediatric sleep questionnaire scores 0.81 which represents a high risk for obstructive sleep apnea. It is decided to perform a full-night polysomnography which detects a severe form of obstructive sleep apnea syndrome. It is decided to initiate nocturnal non-invasive ventilation, CPAP therapy (10cm H2O pressure) throughout sleep period, along with growth hormone substition therapy. The patient is included in a cognitive behavioral therapy program. He is evaluated regularly, at intervals of one month, 3 months, 6 months. As an outcome, the mother admits the progress in the quality of sleep after 12 months of CPAP therapy, with significant improvement of the quality of life by having better relationship abilities and school performance. **BACKGROUND**: Prader Willi Syndrome (PWS) is an unusual genetic disease (1:12000 - 1:25000 live births) which is characterized by a variety of congenital abnormalities presented as short stature, neonatal hypotonia, childhood onset obesity, hypogonadism and craniofacial dysmorphism, along with developmental delay, behavioral problems and sleep-related respiratory disorders. **CONCLUSION**: Improvement in cognitive performance supported by increased QD has been observed in a patient diagnosed with PWS. Reducing hypoxia and improving sleep quality increase the quality of life and academic performance in the PWS patient noninvasively ventilated at home.

Key Words: Prader Willi Syndrome; Obstructive sleep apnea syndrome; Hyperkinetic syndrome; Polysomnography; CPAP (continuous positive airway pressure).

11. **SPINAL DURAL ARTERIOVENOUS FISTULA – A PATHOLOGY THAT SHOULD NOT BE OVERLOOKED**

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CASE PRESENTATION: We present the case of a 43 years old man, with medical history of grade II arterial hypertension, admitted to the Neurology Department of the University Emergency Hospital Bucharest for muscle weakness of both lower limbs of progressive onset in the last 6 months. Neurological examination revealed spastic paraplegia, impaired superficial and deep sensation and urinary incontinence. The cervical-thoracic and lumbar vertebral-spinal MRI depicted serpiginous epidural flow-voids with intense gadolinium enhancement in the post-contrast phase, located predominately posterior in the inferior cervical, thoracic and superior lumbar (L1) segments, associated with a large edematous centromedullary hyperintense area on T2-weighted/STIR sequences, hypointense in T1- weighted images, and also, a slight T7-T12 enlargement of the spinal cord, suggestive for SDAVF. Digital substraction angiography of the spinal cord (catheterization of the right T6 intercostal artery) confirms the presence of SDAVF with a significant dilatation of the perimedullary venous plexus. Embolization with precipitating hydrophobic injectable liquid (PHIL 25%) is performed with complete obliteration of the fistula, without periprocedural incidents. The clinical evolution was favorable, with the improvement of the lower limbs muscle weakness (at discharge - 3/5 MRC), and of the sensory impairment. The patient was able to walk with bilateral assistance. **BACKGROUND**: Spinal dural arteriovenous fistula (SDAVF) is a rare disorder, but one of the most common arterio-venous malformation of the spinal cord. This type of malformation is characterized by abnormal direct connections between arteries and veins in the dura mater. The direct arterial inflow into the venous system induces increased pressure in the venous plexus with secondary venous congestion and intramedullary edema. Left untreated SDAVF is associated with an increased morbidity (quadri/paraparesis depending on its location, sensory changes and sphincter dysfunction). **CONCLUSION**: We chose to present the case of a patient with an interesting and often undiagnosed spinal cord pathology in order to emphasize the importance of an early diagnosis and treatment that may reduce the disability and, also, prevent irreversible neurological deficits.

Key Words: Spinal dural arteriovenous fistula; SDAVF; Digital substraction angiography; Embolization.

12. **AORTIC STENT GRAFT: A CASE REPORT**

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CASE PRESENTATION: We report the imaging aspects in a case of a 42 years old male pacient diagnosed with Stanford A type aortic dissection who underwent stenting of the ascending aorta, aortic arch, the proximal descending thoracic aorta and supraaortic vessels reimplantation. A dissection flap is present at the level of the descending and abdominal aorta, extending into the superior mesenteric artery and right renal artery, with thrombosis of the subprostethic segment. No perfusion deficit is present in the abdominal parenchima and the lungs are unremarkable. The angioCT examination following complex cardiovascular procedures remains a challenge due to particular post-procedural lesions. The computed tomography examination protocol should balance contrast volume, flow-rate and acquisition parameters to obtain the best image quality. We further discuss the current imaging challenges in such a case. **BACKGROUND**: Aortic dissection is a rare condition (5 to 30 cases per one million people per year), which occurs more frequent to men in their 60`s and 70`s. It is a condition that causes the rupture of intima which allows blood to penetrate and further separate the inner and middle layers of aorta. For an untreated dissection, the mortality rate is 25% in the first 6 hours and 50% by 24 hours. Chronic aortic dissection may lead to ischemic syndrome because of the low blood flow to organs (especially kidneys and intestines). **CONCLUSION**: We report on the radiological imaging aspects of a case of Stanford A dissection who underwent a complex combination of surgical and interventional procedures.

Key Words: Aortic Dissection Stanford A, Computed Tomography, Surgical and Interventional procedures.

13. **LMNA CARDIOMYOPATHY AND THE MANAGEMENT OF THE ASSOCIATED LIFETHREATENING CONDUCTION ABNORMALITIES IN YOUNG ATHLETES**

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CASE PRESENTATION: We present a case of a 45 years old male athlete who is dyslipidemic with no other cardiovascular risk factors. His family history is significant for a maternal diagnosis of nonischemic DCM. The patient presented with syncope preceded by fast palpitations. The cardiorespiratory physical examination was normal. The electrocardiogram (ECG) revealed a complete atrioventricular block (AVB). Echocardiography showed a dilated left ventricle and a decreased left ventricular (LV) ejection fraction (LVEF). Speckle tracking revealed physiological longitudinal strain but abnormal septal mid-ventricular radial strain. Late gadolinium enhancement (LGE) cardiac magnetic resonance imaging (MRI), demonstrated a dilated left ventricle with a decreased LVEF and mid-myocardial septal scarring. The para-clinical findings revealed DCM. Given the patient's family history, genetic testing was done revealing mutation in the LMNA gene. The final diagnosis was LMNA cardiomyopathy. **BACKGROUND**: Mutations in the LMNA gene lead to a specific phenotypic variation of dilated cardiomyopathy (DCM) known as "DCM with prominent conduction system disease." The conduction system abnormalities associated with LMNA DCM have an increased risk of sudden cardiac death (SCD). These conduction abnormalities necessitate a different approach to conduction abnormalities not associated with structural heart disease. **CONCLUSION**: In athletes presenting with complete AVB, multimodal evaluation is a necessity in order to eliminate the possibility of an underlying structural heart disease. Cardiac MRI plays a central role in revealing the presence of myocardial scarring, and it also reveals the possible aetiology for this scarring based on the LGE patterns. Since scar serves as a natural substrate for the development of ventricular arrhythmias, this finding justifies the placement of an implantable cardioverter defibrillator (ICD) in order to prevent SCD. In conclusion, meticulous evaluation of the underlying cause for the development of complete AV block in young patients is crucial, as this changes the treatment from DDD pacing to ICD implantation.

Key Words: LMNA Dilated Cardiomyopathy (DCM); Genetic testing; Cardiac Magnetic Resonance Imaging (MRI); speckle tracking echocardiography.

14. **WHAT CAN BE HIDDEN BEHIND AN ANTERIOR CHEST PAIN**

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CASE PRESENTATION: We report the case of a 61-year-old male patient, with no medical history, who was presenting for an anterior chest pain, which appeared suddenly during an effort, accompanied by palpitations, fatigue and dyspnea. The clinical examination revealed the presence of a systolic murmur graded 4/6, with maximum auscultation at the apex and radiation to the left axilla. The electrocardiogram showed only an extrasystolic arrhythmia and the chest X-ray was normal. The ecocardiographic evaluation established the diagnosis of severe posterior mitral valve prolapse, without any rupture, color Doppler revealing severe mitral regurgitation, a tricuspid valve prolapse, third degree tricuspid regurgitation and pulmonary hypertension. The transesophageal ultrasound confirmed the severe mitral valve prolapse. Given the clinical presentation, a coronary angiography was performed, showing the coronary arteries without hemodynamically significant lesions. The Holter ECG detected atrial fibrillation in 44% of the monitoring time. In this context, the possible causes of the anterior chest pain were: microvascular angina, traction on the chordae or pulmonary hypertension. Given the patient's age and the severity of the mitral regurgitation, he was referred to the cardiac surgery department, where he underwent the replacement of the mitral valve with a mechanical one. **BACKGROUND**: Mitral valve prolapse is the bulging of one or both of the mitral valve leaflets into the left atrium during the systole. Mitral regurgitation, if present, is generally mild and may results in a murmur. The cause of mitral valve prolapse is unknown, but is likely to be linked to heredity. **CONCLUSION**: The particularity of the case consists in the presence of a patient with severe mitral valve prolapse, totally asymptomatic until the moment of presentation, with an acute onset of the symptoms, but without rupture of chords or papillary muscles. Even if the mitral valve prolapse is 2 times more common in women, our patient was a man. Another peculiarity consists in the existence of paroxysmal atrial fibrillation detected on Holter ECG, considering that mitral valve prolapse is more frequently associated with ventricular arrhythmias.

Key Words: Mitral valve prolapse, Mitral regurgitation, Anterior chest pain, Atrial fibrillation.

15. **SLEEP EEG STUDIES HIGHLIGHTING THE DIFFERENCE BETWEEN FOCAL AND GENERALISED EPILEPSY**

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CASE PRESENTATION: The first patient, referred to as A.L., is a 16-year-old male with a history of seizures at 5-6 years of age that have been treated with Sodium valproate. After 2 years, the patient stopped the medication and had a period of 8 years seizure free. At around the age of 16, generalised seizure reoccur and he restarts the treatment without subsequent seizures. At this point, he presents for a sleep EEG study that shows few, short generalised epileptiform discharges. Following the EEG, the patient is advised that his condition is lifelong and that the medication should not be stopped. The second patient, referred to as M.V., is a 40-year-old male with a history of seizures starting at the age of 8. In the early stages of the disease the patient reported seizures manifesting with restlessness, facial rubefaction, verbal and gestural automatisms possibly along with a loss of awareness. Around the time of presentation, the seizures manifest with vertigo, cephalic sensation and manual automatisms (of a lower intensity due to treatment with Levetiracetam). The patient also complained of excessive daytime sleepiness. The study has confirmed a diagnosis of right frontal focal epilepsy with uncontrolled night-time seizures, explaining the daytime sleepiness. Imaging studies revealed a frontal focal lesion that has been removed surgically, making the patient seizure free. **BACKGROUND**: Epilepsy is a neurological condition that results in the patient having a high risk of recurrent seizures. According to the Centers for Diseases Control and Prevention (CDC), in 2015, 1.2% of the US population, about 3.4 million people were suffering from epilepsy, making it one of the most widespread neurological disorders. Although it is true that this disorder can have many clinical and paraclinical manifestations, the following case study focuses on the differences between focal and generalised epilepsy in interictal sleep electroencephalographic (EEG) studies of two patients. **CONCLUSION**: Prolonged sleep EEG studies are the cornerstone of epilepsy diagnostics and offer great insight into the type of seizures, the risk of reoccurrence and the recommended treatment.

Key Words: Sleep EEG; Epilepsy; Generalised epilepsy; Focal epilepsy; Seizure.

16. **PSYCHOGENIC NON-EPILEPTIC SEIZURES-HOW WE CAN DISTINGUISH THEM FROM EPILEPTIC SEIZURES**

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CASE PRESENTATION: The subject in this study is a 23-year-old Caucasian female who was admitted for a 12- hour video-EEG monitoring. The symptomatology onset in 2021 with a series of episodes of "seizure-like" activity on account of which she was diagnosed with epilepsy. Antiseizure medication was then initiated firstly with Oxcarbazepine, then with Zonisamide and Levetiracetam in adequate dosage due to recurring seizures. A history of psychotraumatic events during childhood was also reported. A 32-channel recording in the modified version of the 10-10 system was performed to evaluate wakefulness, sleep and reactivity using activation procedures, e.g. eye-opening, eye-closure and hyperventilation. After 2 minutes of the hyperventilation protocol the patient experienced repetitive involuntary movements of the upper right limb, followed by bilateral lower limbs in an asymmetric manner with unresponsiveness, clenched fists and closed eyes. Eye closure is not consistent during epileptic seizures, but has been found to be a reliable sign for PNES. The event lasted 90 seconds after which the patient regained responsiveness to external stimuli. There were no persistent neurological deficits present at the end of the event. The electroencephalography showed no epileptiform discharges in the course or before the seizure, but a regular alpha rhythm which is never found during a generalized tonic-clonic seizure. Follow-up medical recommendations included gradual reduction of medication, psychiatric observation and cognitive behaviour therapy. **BACKGROUND**: Psychogenic Non-Epileptic Seizures (PNES) are paroxysmal episodes of altered behaviour resembling epileptic seizures but lacking the excessive synchronous cortical electroencephalographic activity. The aim of this case report is to present the difficulties of differential diagnosis between epileptic seizures and PNES. **CONCLUSION**: Although PNES and epileptic seizures may look similar upon first examination, the differential diagnosis can be achieved by observing the semiology and case history more critically and through vEEG studies.

Key Words: PNES; Electroencephalogram; Seizure; vEEG.

17. **A CASE OF KAPOSI´S SARCOMA ASSOCIATED WITH HIV INFECTION**

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CASE PRESENTATION: We present the case of a 37-year-old heterosexual male patient with a 1-month history of asymptomatic skin eruptions. Lesions first appeared on the face and later on the upper limbs. Dermatological examination showed multiple, well-defined, non-scaly, violaceous skin lesions in patches as well as plaques of variable size disseminated at the facial level, upper limbs, and oral mucosa, which led to the diagnosis of KS. It is also important to report that the patient has a twin brother known to suffer from AIDS. On further inquiry, there was a medical record of fever, dry cough, and weight loss. Laboratory investigations showed severe anemia and the chest X-Ray revealed pulmonary tuberculosis. ELISA tests and Western-Blot for HIV were positive, while serology tests for hepatitis B and C, toxoplasmosis, and cytomegalovirus were negative. (CD4 count was 171 cells/mm^3 and ARN-HIV was 1160000 copies/mm^3). Oral exfoliative cytology was performed and revealed a fungal infection with Candida albicans. The optimal treatment for AIDS-related KS is be chosen based on clinical staging, being proven that highly active antiretroviral therapy (HAART) is the most efficient. **BACKGROUND**: Kaposi´s sarcoma (KS) is a multi-focal vascular neoplasm that usually appears on the skin, but can also involve other organs. The underlying cause of Kaposi\'s sarcoma is the infection with a virus called human herpesvirus 8 (HHV-8). It is the most common neoplasm in patients with acquired immunodeficiency syndrome (AIDS), occurring in up to 65% of cases. **CONCLUSION**: Clinically, AIDS-related KS differs from its classical form. In these immunocompromised patients, KS behaves more aggressively, often involving mucosal tissues such as the oral, genital, or ocular mucosa. It is of great significance to understand the relation between HIV and HHV-8-infection regarding disease onset, while clinical presentation is important to raise awareness of KS and ensure appropriate management of affected patients.

Key Words: HIV, AIDS, Kaposi's sarcoma, HAART.

18. **EXTRACORPOREAL MEMBRANE OXYGENATOR (ECMO) IN SEVERE ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS): A SYSTEMATIC REVIEW**

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INTRODUCTION: ARDS is a respiratory disorder with a complex etiology, characterized by acute onset of respiratory insufficiency with reduced lung compliance. Veno-venous-ECMO (vv-ECMO) is used as an adjuvant therapy in severe ARDS with refractory hypoxemia, aiming for an effective lung protection. The objective of this review is to present the outcome of vv-ECMO in severe ARDS patients. **METHODS**: PubMed articles between 2009-2021 were reviewed, including original studies and systematic reviews, regarding vv-ECMO in patients associating ARDS. Comprehensive searches were made using the following keywords: vv-ECMO, severe ARDS, respiratory insufficiency. Inclusion criteria were early mortality and morbidity rates. Exclusion criteria were patients <= 18 years old and patients with contraindication to heparin. Limitations of this review are the small group randomized trials. Bias risk was not evaluated and PRISMA guidelines were used for data synthesis. **RESULTS**: ECMO to Rescue Lung Injury in Severe ARDS (EOLIA) trial revealed a reduction in 60-day mortality with ECMO: 35% vs. 46% in the control group in a 249 patients trial (124 – ECMO, 125 – conservative treatment). Conventional Ventilator Support vs Extracorporeal Membrane Oxygenation for Severe Acute Respiratory Failure (CESAR) trial described similar results regarding short term mortality (37% in the ECMO group vs. 53% in the control group; p=0.03), although 6 month mortality was not significantly reduced (37% vs. 45%; p=0.07). Tsai and Chang et al observed that the ECMO group exhibited lower mortality than did the non-ECMO group (55% versus 65.1%). **CONCLUSION**: Vv-ECMO in severe ARDS patients is associated with satisfying outcomes regarding short term mortality and morbidity in highly selected groups. Further studies should be conducted for a fully understanding of the ECMO benefits in severe ARDS patients.

Key Words: vv-ECMO; ARDS; Respiratory insufficiency.

19. **BED-TIME STORY OR PATHOLOGY: CAN WE HAVE A BROKEN HEART?**

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INTRODUCTION: Takotsubo Cardiomyopathy (TC) is a clinical entity caused by emotional distress. The left ventricle (LV)becomes shaped like a Japanese octopus trap with a round bottom and a narrow neck due to the ballooning of the apex. This study aims to show that because of its similar symptoms with the acute myocardial infarction (AMI), TC is often misdiagnosed and inappropriately treated. **METHODS**: This study is based on 12 articles published between 2012-2022, regarding the clinical manifestations and paraclinical investigations of over 10.000 patients of different ages and sexes admitted with chest pain, bradycardia and dyspnea due to exaggerated effort or sudden experienced trauma. Through further medical testing, involving ECG, echocardiogram, angiography and hormonal examination, the patients from the 2 groups: TC and AMI, could be clearly differentiated based on the results. **RESULTS**: It was proven that TC usually occurs in postmenopausal women, 90% of all reported cases being on women ranging 58-75 years old, with only <3% of patients under 50. The TC patients show no specific cardiac history or current condition associated to this pathology. ECG abnormalities are similar with AMI such as ST-segment elevation and QT prolongation. Coronary angiography is negative for TC, although for AMI it shows significant stenosis or lesions. Cardiac markers such as troponins or BNP show no consistent pattern. However, catecholamines levels are 2-3 times higher among patients with TC comparing to AMI. Echocardiograms are a hallmark for diagnosing TC because of the hyperkinetic LV base, midventricular hypokinesis and apical akinesis causing marked apical ballooning and reducing the ejection fraction severely. The treatment for TC should include both heart-failure drugs (nitrates, diuretics, beta-blockers, angiotensin blockers, aspirin) but also psychosocial support along with anxiolytics. The overall prognosis is favorable because of its reversibility, the mortality rates being up to 8% if treated correctly. **CONCLUSION**: As shown in previous studies, the Broken-Heart syndrome is a life treating pathology which can be confused with AMI (similar ECG and pain manifestation). By taking a multidisciplinary approach (echocardiogram, angiogram, psychiatric exam) TC can be understood and diagnosed correctly.

Key Words: Takotsubo Cardiomyopathy; Broken-Heart Syndrome; Apical Ballooning; Stress-Induced Cardiomyopathy.

20. **EXTRADIGESTIVE MANIFESTATIONS IN INFLAMMATORY BOWEL DISEASES**

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INTRODUCTION: Inflammatory bowel diseases (IBD) are a group of autoimmune intestinal conditions, the most common of them being Crohn\'s disease (CD) and ulcerative colitis (UC), with a growing prevalence. The cause of these two are yet to be fully understood, some of the theories being the population of bacteria in the bowel that keeps the cells of immune system alert and misconduct them to attack self cells. Mutations in several genes (coding for NOD2 and HLA) were discovered too. Clinical manifestations include fatigue, reduced appetite, abdominal pain, bloody diarrhea, but sometimes unexpected extradigestive symptoms and signs are noticed. **METHODS**: Ten PubMed studies from 2016 to 2022 were considered for this review. The eligibility of selected articles was analyzed based on criteria such as the type (original, clinical studies; reviews were rejected), the prevalence of the extradigestive manifestations and the diversity of them. The rejected studies lacked the inclusion criteria or did not concentrate specifically on the extraintestinal aspects. Bias risk was not evaluated and PRISMA guidelines were used for data synthesis. **RESULTS**: The extradigestive manifestations in IBD are numerous, aiming other systems of organs such as dermatological complications (erythema nodosum, pyoderma gangrenosum, psoriasis, aphthous stomatitis) and rheumatologic complications, like peripheral arthritis, with autoimmune etiology as well. The articles suggest that the frequency is between 15- 30% in CD and UC and it is more common for CD than for UC. The connection between IBD and rheumatologic inflammatory diseases is based on the genetic similarities regarding mutations of HLA-B27. Other complications are related to the respiratory system, such as bronchial inflammation and suppuration and pulmonary nodules, based on the resemblance of the immune systems in pulmonary and intestinal mucosa. Perianal fistulas, ocular complications, vasculitis, venous and arterial thrombosis were also reported. **CONCLUSION**: The IBD are a wide topic that continues to raise questions, especially because of the differences in manifestations from one patient to another. The focus on the extradigestive implications is motivated by their variety and could be an index for the cause and future treatments. Moreover, they put on display our rudimentary knowledge regarding autoimmune conditions.

Key Words: Inflammatory bowel diseases, Crohn\'s disease, Ulcerative colitis, Extradigestive manifestations.

21. **IMIDAZOLINE SYSTEM'S POTENTIAL INVOLVEMENT IN TREATING BRAIN DISORDERS AND ENHANCING COGNITIVE FUNCTIONS**

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INTRODUCTION: Imidazoline receptors were first mentioned in 1984. Since then, studies have shown this system's involvement in regulation of blood pressure, anti-inflammation, hyperglycemia, antitumor activities and cognitive functions. There are known 3 types of imidazoline receptors: I1, I2 and I3. This review's purpose is to show imidazoline agents' role in cognitive functions in rats and this system's therapeutic potential in brain disorders. **METHODS**: A literature study using Pubmed and Google Scholars databases with the combination of words "idazoxan\" or "efaroxan\" and "cognitive function\", was used for the purpose of this review. The articles between 2000 and october 2022 were selected. **RESULTS**: Most of the studies analyzed in this review showed that the use of imidazoline receptors antagonists- efaroxan and idazoxan- enhanced the cognitive functions of rats such as short-term memory retention, discriminative spatial learning and long-term memory. Their use also revealed sedative effects and decrease of anxious behaviour. Another agent- an endogenous agonist of imidazoline receptors called agmatine presented antidepressant-like action and anti-compulsive-like effect in animal models. These effects were completely blocked by idazoxan and efaroxan, suggesting the involvement of imidazoline receptors in anxiety and obsessive compulsive disorders. **CONCLUSION**: Neuro-pharmacological studies on animal models demonstrate the potential therapeutic effect of imidazoline system and its agents on brain disorders. Even though their effects on humans is yet to be demonstrated, progress in this direction was made in the last 3 decades.

Key Words: Imidazoline receptors, Idazoxan, Efaroxan, Brain disorders, Cognitive function.

22. **MUCOSAL MELANOMAS WITH UROGENITAL LOCALIZATION**

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INTRODUCTION: Extracutaneous melanomas have a complex clinical presentation, but these aggressive tumors have a poor prognosis. Only 4-5% of all primary melanomas do not arise from the skin. The five-year overall survival rate of vulvar melanoma is 47% compared with 92% for cutaneous melanoma. Compared to skin melanomas, melanomas with urogenital localization are associated with a poor prognosis resulting from delayed diagnosis and different tumor biology, treatment strategies, and treatment response. **METHODS**: For this study, I used eight articles from https://pubmed.ncbi.nlm.nih.gov/ and Fitzpatrick's Dermatology textbook. The papers are ranging from 2003 to 2021. **RESULTS**: Only 1,3% of melanomas occur on mucous membranes, out of which 18% are on female genital mucous membranes, 23,8% in the anal/rectal region, and 2,85% on urinary mucosa. The 5 years survival rate for melanomas in patients treated with surgical resection alone in the female genital region is 11% and in the anal/rectal region is 20%. Novel treatment modalities include checkpoint inhibitors and targeted therapies. **CONCLUSION**: The etiology of mucosal melanomas remains unknown. Wide excision surgery is the treatment of choice. The effect of adjuvant therapy on survival remains questionable due to limited knowledge. Radiotherapy seems to give better local control. The overall fiveyear survival rate for mucosal melanomas is 0-45%. Recent data indicates that this may be improved by immunotherapy in the years to come.

Key Words: Mucosal melanoma, Treatment, Prognosis, Vulvar melanoma, Urethra.

23. **SPLENIC HYDATID CYST: OPEN OR LAPAROSCOPIC APPROACH?**

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INTRODUCTION: Hydatid disease is endemic in farming areas, but occurs worldwide. The most common site of disease is the liver, followed by the lungs, kidney, bones and brain. Other sites such as the heart, spleen, pancreas and muscles are very rarely affected. Up to 4% of instances of abdominal hydatid disease have reportedly been linked to splenic hydatid disease. Clinicians may encounter diagnostic difficulties due to the rarity of splenic hydatid disease, particularly in nonendemic regions. The purpose of this research is to describe the epidemiologic characteristics, diagnostic techniques, and treatment options of this illness. **METHODS**: We performed a retrospective study of 28 patients operated on by open and laparoscopic approach for a splenic hydatid cyst between January 1990 and December 2017 in the First Surgical Clinic of \"St. Spiridon\" University Hospital of Iași with the aim of presenting the latest updates regarding the diagnosis methods and therapeutic procedures. For this we evaluate the demographic data, localization, diagnosis, treatment methods, and the length of postoperative hospital stay of the patients. **RESULTS**: Our retrospective study group included 16 women and 12 men with a mean age of 47.82. Most patients were from rural areas (82.1%), the occupational hazards being frequently involved in the etiopathogenesis of the disease (35.7%). 11 patients had multiple organ involvement, while 17 patients only had splenic involvement. Left quadrant pain of varying intensity, radiating to other areas or not, was the most prevalent and early symptom. On physical examination, 12 patients had splenomegaly. In all cases, an ultrasound and CT scan revealed a splenic cystic mass. In conclusion, 26 splenectomies and 2 conservative spleen procedures were conducted on all patients during operations using the laparoscopic approach in 6 cases and the open approach in 22 cases. Due to close adhesions with surrounding organs, laparoscopic procedures can sometimes be challenging. **CONCLUSION**: Splenic hydatid cysts are rare, being more common in endemic regions; our region has a low prevalence of these cysts. The splenic hydatid cyst may become a challenging surgical problem. Individual management is required. In some circumstances, a laparoscopic approach is suitable.

Key Words: Splenic hydatid cyst; Splenectomy; Laparoscopy.

24. **5 YEARS EXPERIENCE IN PEDIATRIC SPLENIC TRAUMA**

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INTRODUCTION: Child trauma represent nowadays a leading cause of mortality. For children with mild trauma who are clinically stable, FAST is enough for the evaluation. **METHODS**: 312 children admitted between 2017-2022 in our department, had been retrospectively examined, regarding blunt abdominal trauma. The physical exam findings, radiologic imaging, as well as our clinical and surgical approach of the spleen, pancreas, small intestine and kidney trauma were taken into consideration. In this study we focused on splenic trauma. Management options were nonoperative, splenorraphy and splenectomy. Patients under 18 years old with registered splenic injury were identified. **RESULTS**: The most relevant causes of child abdominal trauma were motor vehicle accident (18), falls from height (6), fall from a trampoline (1) and aggression (1). We have performed CTscan in only 10 of our patients. The average age concluded from our study is 11 years 4 months and the average hospital admission was 14,076 days (1-84 days). From a total of 312 children with multiple trauma injuries, 84 had liver injury, 26 splenic, 20 renal, 9 pancreatic, and 5 small intestine injuries. From the patients with splenic trauma, 10 patients underwent surgical treatment (6 patients had emergency splenectomy, 4 splenorraphy), 9 patients benefited from non-operative treatment, and the rest of 7 had others surgical procedures. Due to multiple severe trauma injuries, 2 patients have lost their lives. **CONCLUSION**: The optimal surgical approach, should take into consideration injury severity, hemodynamic status of the patient, and associated lesions. Abdominal CT scan should be performed if FAST ultrasound is inconclusive. Although the gold standard of splenic lesions is nonoperative treatment, the pediatric surgeon should be always ready for surgical intervention.

Key Words: Pediatric splenic trauma; Splenectomy; Splenorraphy.

25. **A 20-YEAR STUDY ON THE TREATMENT OF PERITONEAL HYDATID CYSTS**

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INTRODUCTION: The hydatid cyst is a parasitic infection produced by cysts comprising Echinococcus granulosus larval stage. Primary peritoneal hydatidosis is extremely rare (2% of all intra-abdominal hydatid diseases). Peritoneal hydatid disease is secondary to liver or splenic involvement following spontaneous rupture or accidental spillage during surgery. **METHODS**: We performed a retrospective study based on the database analysis of Clinic I Surgery of the Hospital Emergency University \"St. Spiridon\" from Iași, regarding patients with peritoneal hydatid disease confirmed by imaging, clinically and histopathologically, operated in the period 1991 - 2021, including all medical files. We analyzed the clinical, paraclinical, the anatomical-pathological aspects, the therapeutical modalities and the results of the applied treatment. **RESULTS**: Between 1991 and 2021 a total of 18 patients were operated for primary (3) or secondary peritoneal cysts (15). During the same period, 1002 cases of hydatid cyst with various locations were treated in the Iași Surgery Clinic: 805 abdominal (714 hepatic, 43 splenic, and 18 peritoneal) and 197 extra abdominal (thoracic, cervical, muscular, retroperitoneal, etc.). The incidence of hydatid disease has decreased over time from 35 cases per year to 18 cases per year. In the year of the COVID pandemic (2020) the incidence decreased to 10 cases per year. Most of the patients with peritoneal hydatidosis were asymptomatic or had atypical symptoms. Open surgery was the procedure of choice (16 cases) with conservative (13 cysts) and radical (3 cysts) methods. The laparoscopic approach was performed in 2 cases of primary peritoneal hydatid cysts. Antiparasitic treatment with Albendazole (Zentel, 400 mg tablets.) was administered to all patients. Total daily oral dose of the drug varied between 600 and 800 mg, in two divided doses. It was administered preoperatively for 5 days and postoperative for two months, and resumed in case of relapse. **CONCLUSION**: Surgery was the preferred treatment in larger cysts. Complete excision of the cyst without leakage or rupture, the ideal method, was not always possible. Albendazole treatment can either be used alone in small cysts to stop the evolution, or as adjunct to surgery. Patients should be followed long-term to track relapses.

Key Words: Hydatid cyst, Antiparasitic treatment.

26. **CASE REPORT: ACUTE UPPER LIMB ISCHEMIA POST SARS-COV2 INFECTION**

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CASE PRESENTATION: We present a case of a 71 year old female who developed acute left hand pain on the day of discharge from an Infectious Disease Hospital where she had been an inpatient with severe SARS-Cov2 infection. Other comorbidities included obesity, arterial hypertension and she was also recently treated for Clostridium colitis. On laboratory results, white blood cell count was elevated to 12.09 x1000/uL (NR 4.0-10.0 x1000/uL) and C-reactive protein was 3.68 mg/dl (NR 0-0.5 mg/dl) while others were within the normal limit. A CT angiogram was performed showing thrombus in the left brachial artery with complete occlusion of the radial and cubital arteries. A thrombectomy was performed and intravenous heparin therapy was given. On the second postoperative day, the patient developed new signs of acute limb ischemia. Repeat thrombectomy with clearance of the palmar arch was performed with a Fogarty catheter and the artery was closed with a vein patch from the basilic vein. Again continuous intravenous heparin therapy was given, with careful monitoring of the activated partial thromboplastin time (aPTT). Unfortunately, she again developed signs of limb ischemia requiring a third reintervention; further thrombectomy was performed with the extension of the patch closure and postoperatively she was started on aspirin and continued on heparin infusion with no other embolic events. **BACKGROUND**: Acute upper limb ischemia manifests as an acute onset of pain secondary to occlusion of arterial blood supply. Rapid recognition of ischemia signs is mandatory to prevent limb loss and life-threatening morbidity. Infection with COVID-19 has been proven to increase the risk of embolic events with venous thromboembolism occurring more frequently than arterial embolism. **CONCLUSION**: COVID-19 infection results in endothelial damage, hypercoagulable states and an overall increased inflammatory status which can persist beyond the initial infection and play a role in inducing arterial ischemia. In this case immediate postoperative administration of antithrombotic and anticoagulant therapies, while considering the risk of bleeding, was mandatory to reduce the risk of reintervention and morbidity.

Key Words: Acute limb ischemia; Post SARS-Cov2 infection; Thrombectomy.

27. **UNEXPECTED AND RARE CLINICAL RESPONSE AFTER STIMULATION OF STEREO-EEG ELECTRODES**

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CASE PRESENTATION: Clinical case: 31 years old female patient, with refractory focal epilepsy that started at 24 years of age. The refractory epilepsy evaluation showed: video-EEG with ictal pattern starting in right frontal lobe and propagation to the right temporal region followed by generalization; Brain MRI without lesions; PET with right temporal mesial hypometabolism and neuropsychology with minor impairment of visual memory. At the time of admission, she had a frequency of 3 attacks per month. A pre-surgical evaluation was initiated. A stereo-EEG was performed with implantation of 10 deep electrodes, covering right frontal and temporal lobes. During stereo-EEG monitoring, with anti-epileptic drugs reduction, several electroclinical seizures were recorded. Electrode stimulation triggered electrical seizures in the body of hippocampus and paresthesia in the right periorbital region with stimulation of the deepest contacts of temporal basal electrode. No cranial base defects were identified. This is a rare effect of electrode stimulation; previous reports described painful manifestations, but not isolated sensory symptoms. After completion of monitoring electrodes were removed without complications. **BACKGROUND**: Epilepsy is one of the most serious neurological conditions. Patients with refractory epilepsy have disabling seizures despite taking antiseizure medications. When non-invasive studies aren't enough to identify the seizure onset zone, invasive EEG studies, as stereo-EEG, may be indicated. In approximately 30% of patients with epilepsy, epileptic seizures will be refractory to monotherapy treatment. **CONCLUSION**: Invasive EEG studies, like SEEG are required in the diagnosis and treatment of some refractory epilepsy patients. The stimulation of the SEEG eletrodes can generate some unexpected clinical responses and these are a learning opportunities to find anatomo-clinical explanations.

Key Words: Refractory focal epilepsy, Stereo EEG, Frontal lobe, Temporal lobe, Electrode stimulation, Trigeminal nerve, EZ – epileptogenic zone.

28. **TWO PATELLAS OR AN UNIDENTIFIED TUMOR?**

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CASE PRESENTATION: A 74-year-old female patient is admitted to a clinic, reporting mechanical pain in the left knee, with a diagnosis of advanced osteoarthritis in view of total knee arthroplasty. Imagistic examination (X-ray, ultrasound, and computer tomography) disclose the presence of an infrapatellar calcified formation of 50/40/15 mm that tightens the patellar tendon in the middle portion reducing its thickness to 2.5 mm, compared to the contralateral patellar tendon (4 mm). The case was treated surgically by total excision of the infrapatellar tumoral formation and total knee arthroplasty with cemented stabilized posteroprosthesis. The mass of infrapatellar calcified formation was found extra-capsular and it was adjacent to the patellar tendon. Following the anatomopathological examination, the diagnosis was osteochondroma of the infrapatellar fat. The recovery of the patient was favourable, without further complications (extensor mechanism failure) with good recovery of the articular mobility (Flexion = 100° and Extension = 0°). **BACKGROUND**: Paraarticular osteochondromas are rare osteocartilaginous tumors that arise in the soft tissue adjacent to a joint. One case of grade 4 osteoarthritis (Kellgren & Lawrance) and grade 2 genu varum associated with an infrapatellar Hoffa fat tumor formation arising in a 74 years old patient will be reported in this study. **CONCLUSION**: Patients suffering from osteochondroma were known to be asymptomatic for a long time, and their tumour can be identified after a routine X-ray. The infrapatellar localisation and large osteochondroma tumours are very rare, having a major impact on the degenerative evolution and mobility of the knee. Therapeutical treatment should implement both tumoral and osteoarthrosis surgical treatment.

Key Words: Para-articular osteochondroma, Infrapatellar fat, Osteoarthritis, Total knee arthroplasty.

29. **MICROSURGICAL TREATMENT OF A DURAL ARTERIOVENOUS FISTULA - A PATIENT-TAILORED APPROACH**

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CASE PRESENTATION: We present the case of a 61-year-old male patient that had an episode of generalized seizure two weeks before hospital admission. The patient was known with arterial hypertension and no other significant comorbidities. The neurologic exam revealed no deficits. Imaging studies, CT and MRI with angiography sequences, revealed a left frontal vascular malformation with calcifications and a small quantity of subacute blood surrounding the lesion. Furthermore, a digital subtraction angiography confirmed the diagnosis of a left frontal dural arteriovenous fistula, with arterial feeders from the left and right middle meningeal arteries and also from the branches of the left anterior cerebral artery. The venous drainage was in the superior sagittal sinus. The patient underwent surgical resection of the dAVF through a left frontal approach. Intraoperative neuronavigation and ultrasound were used in order to guide the trajectory and identify the vascular structures. The dAVF was completely resected under the surgical microscope. The diagnosis was validated by the histopathological exam. Postoperative imaging studies confirmed the complete resection. Postoperatively, the patient presented no neurological deficits, having a good recovery and good seizure control. **BACKGROUND**: Dural arteriovenous fistulas (dAVFs) are rare vascular malformations, representing abnormal arteriovenous shunts between the dural vessels. Given their unclear etiology and high hemorrhagic risk, patients are usually diagnosed following the rupture of the dAVF, most commonly in their sixth or seventh decades of life. **CONCLUSION**: While the actual trend is towards the extensive use of endovascular treatment of dAVFs, there are cases when the anatomic constraints limit its role. Hence, microsurgical treatment is still recommended, and the particularities of every patient should determine the treatment plan. The clinical case presented here confirms that microsurgical resection can completely and safely remove a dAVF from the circulation, with a favorable clinical outcome.

Key Words: Dural arteriovenous fistula, Microsurgical resection, Hemorrhagic risk, Digital subtraction angiography.

30. **MULTIPLE PROFILERATING TRICHILEMMAL CYSTS OF THE SCALP: A CASE REPORT**

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CASE PRESENTATION: We present a case report of a 78-years-old female patient who has entered the Neurosurgery clinic of "St. Marina" University Hospital with clinical manifestation of rapidly growing from several months subcutaneous formation on the head and the presence of two smaller ones. MRI scan discovered three subcutaneous tumor formations suspicious for proliferating trichilemmal cysts, one of which was gigantic in size. After clinical discussion, under general anesthesia an operative treatment was performed with total extirpation of the cysts. Postoperatively, surgery-related complications were not observed. The patient was mobilized and verticalized on the day after intervention and discharged on the 5th day. As a result, a good cosmetic effect was obtained. **BACKGROUND**: Proliferating trichilemmal cyst, also known as proliferating pilar scalp tumor, is a rare benign tumor of the hair follicle. While trichilemmal cysts are common intradermal or subcutaneous cysts, occuring in 5-10% of the population, only 2% will develop into proliferative trichilemmal cyst. The differential diagnosis should include lesions such as malignant proliferating trichilemmal tumor and squamous cell carcinoma. Surgical treatment is the only effective method for treating these rare cysts. **CONCLUSION**: Proliferating trichilemmal cyst is an uncommon neoplasm, and reporting of these lesions are important due to the good clinical evolution compared to the malignant macroscopic and microscopic feature of these tumor formations.

Key Words: Trichilemmal cyst, Proliferating, Scalp, Tumor trichilemmal.

31. **BILATERAL GIANT OVARIAN SEROUS CYSTADENOMAS IN A POSTMENOPAUSAL WOMAN: A RARE CASE**

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CASE PRESENTATION: A 66-year-old woman was referred to our surgical department with abdominal distension. Ultrasound and computed tomography found a giant cystic mass occupying the whole abdomen. A laparotomy was performed and revealed two giant cysts; one attached to the right ovary measuring 60cm at its greatest diameter, and another on the left ovary with a greatest diameter of 40cm. The ovarian cysts were removed with a total hysterectomy. A histological examination revealed ovarian serous cystadenomas. The woman was discharged, and on follow-up two years later, reported no problems. **BACKGROUND**: Benign serous tumors of the ovary account for 16% of all ovarian epithelial neoplasms. They are bilateral in 10 to 20% of cases. We aim to present a case of a postmenopausal woman with bilateral giant ovarian serous cystadenomas. **CONCLUSION**: This case presents one of the largest ovarian cysts reported in the literature, what is more, no other reports of giant bilateral serous cystadenomas were found during our literature search.

Key Words: Serous cystadenoma, Giant ovarian cyst, Bilateral ovarian cysts.

32. **DIBUCELL ACTIVE BIODEGRADABILE DRESSING – A NEW ERA IN TREATMENT OF CHRONIC VENOUS ULCERS**

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CASE PRESENTATION: The effectiveness of the DibuCell Active dressing was evaluated based on the analysis of results obtained during the prospective study that was conducted on 5 patients with venous trophic ulcers, associated with hypertension, treated in Septic Surgery Department (IMU) during 2021. Totally, patients had 9 ulcers. Patient selection criteria: active venous ulcer, adults > 18 years, administration of topical treatment. The treatment with DibuCell Active was performed according to the scheme proposed by the manufacturer without any other local treatment. The dynamics of epithelialization of the ulcers and duration of treatment was analysed. The surface dynamics of ulcers was evaluated by using computerised analysis of digital images according to the ImageJ program. The patients were divided into 3 groups according to the duration of treatment and the size of the ulcer. **BACKGROUND**: Venous trophic ulcers are late manifestations of chronic venous insufficiency that is associated with a significant reduction in quality of life. The elderly are affected in 0.3- 1% of cases. As the global population becomes older, the disease has shown a worldwide growing incidence. This, reviews the diagnostic and therapeutic approach for venous trophic ulcers and requires a multidisciplinary approach. Epithelization was completely, duration of treatment depinded on ulcer surface: I group (ulcer < 5cm2) complete epithelialization in 20 days – 2; II group (ulcer – 5-10cm2) complete epithelialization in 30 days – 2; III group (ulcer >10cm2) complete epithelialization in 90 days – 1. Addition of the DibuCell Active dressing to the topical therapy favorised the therapeutic efficacy. **CONCLUSION**: The new therapeutic approach in the control of chronic venous ulcers the biodegradable dressing DibuCell Active has a major effectiveness by increasing epithelization and reducing the duration of treatment. This minimizes the traumatization of newly created tissues and facilitates and simplifies the treatment process. Our study showed that addition of the DibuCell Active dressing to topical therapy increases the therapeutic efficacy of the treatment of ulcers occurring during the chronic venous insufficiency patients treated for chronic wounds.

Key Words: Chronic venous ulcers, Treatment, DibuCell Active.

33. **THE MANAGEMENT OF A MESOBLASTIC NEPHROMA**

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CASE PRESENTATION: A 2 year-old male patient was admitted to "Sf. Maria" Children's Hospital from Iași in February 2022 with a preliminary diagnosis of right kidney nephroblastoma. He presented with diffuse abdominal pain, abdominal distension, and hematuria. Abdominal CT Scan identified a right kidney tumor-like mass measuring 16, 47/ 11, 68/ 16, 66 cm, with a heterogenous consistency and necrotic core, as well as vaguely delimited margins. The patient was sent to the Pediatric Oncology Department, where he received neoadjuvant chemotherapy according to the SIOP-NEPHROBLASTOMA protocol. There was no tumor shrinkage on the CT scan, the tumor still had a large size. Surgery was scheduled and consisted of median laparotomy, right kidney tumor excision, mesenteric lymph nodes (LNs) biopsy, incidental appendectomy, and peritoneal drainage. A central venous catheter and a urinary catheter were also placed. The postoperative course was uneventful. A routine ultrasound study revealed normal left kidney appearance and no significant abdominal postoperative findings. Pathology was consistent with cellular – type mesoblastic nephroblastoma and partial (10%) tumor necrosis. Immunohistochemistry in the tumor specimen was positive for CD-34, Vimentin, Desmin, Sma and K167 (25% of tumor cells). WT- 1 was positive in normal kidney parenchyma. LNs were tumor-free. The patient was scheduled to resume chemotherapy under the above-mentioned protocol. **BACKGROUND**: Mesoblastic nephroma (also called fetal renal hamartoma) is a common kidney tumor identified in the neonatal period and the most frequent benign kidney tumor in childhood (3-10% of all pediatric kidney tumors. It was first described by Bolande in 1967; prior to this, it was misdiagnosed as Wilms tumor. **CONCLUSION**: Large kidney tumors are generally represented by Wilms' tumor. However, the lack of tumor shrinkage after standard initial chemotherapy could suggest the presence of a different tumor histology. Surgery is mandatory for curing these patients. Pathology is able to document tumor histology and the therapeutic answer to chemotherapy.

Key Words: Laparoscopy; Renal tumor; Mesoblastic nephroma.

34. **DIAGNOSIS AND SURGERY OF SPIGELIAN HERNIA IN CHILDREN**

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INTRODUCTION: A Spigelian hernia is a congenital or usually acquired condition which occurs on the anterior abdominal wall adjacent to the semilunar line, because of a defect in the lateral edge of the rectus muscle. Most of Spigelian hernias appear in the lower abdomen where the posterior rectus fascia is absent. It is rarely seen in children and exceptionally in a post -traumatic context. Because of that rarity, this condition is often misdiagnosed or late detected, being confused with another abdominal mass. In order to reduce its subsequent complications, it is important to increase awareness upon this subject. **METHODS**: I have reviewed the case reports of fifteen traumatic Spigelian hernia in children which were described in the literature between 1956 and 2017. All the patients are boys with ages between 2.5 and 16 and with an average age of 8.7. For the majority of them the reason of occurrence of the hernia is falling onto the bicycle handlebar. Other causes are falling from a tree, being injured in a car crash or falling onto the motorcycle handlebar. **RESULTS**: In 20% of the pediatric cases strangulated hernia was ivolved, so urgent surgery was required. Analyzing the fifteen children, all went straight to the operating room, where fourteen patients were treated using open tissue repair and only one, injured in 2010, was treated by using laparoscopic tissue repair. So far, open surgery has been preferred for pediatric hernia intervention. **CONCLUSION**: Although it is an unusual condition, pediatric Spigelian hernia needs a prompt intervention in order to reduce risks. The doctor should acknowledge Spigelian hernia as a diagnosis and find the most suitable surgical technique.

Key Words: Pediatric Spigelian hernia, Laparoscopy, Open surgery.

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