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4th – 8th May 2022

Târgu Mureș, Romania

BOOK OF ABSTRACTS

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BASIC MEDICAL SCIENCES

GASTRIC GASTROINTESTINAL STROMAL TUMORS. A SERIES OF SIX CASES OF ONE OF THE RAREST TUMORS OF THE GASTROINTESTINAL TRACT.

Dragoş-Mihai Corău[1], Adrian-Horațiu Sabău[1], Ovidiu Simion Cotoi[1]

[1]UMFST Tîrgu Mureş

Background: Gastrointestinal Stromal Tumors or GISTs are mesenchymal, non-epithelial neoplasms that account for only 2.2% of all gastrointestinal tumors and can be primarily located anywhere in the digestive tract with a predilection for the stomach and small intestine. Most of the GISTs are sporadic tumors that are believed to originate from a precursor, the interstitial cells of Cajal, both known to express CD117 at immunohistochemical assessment. **Objective:** This paper aimed to emphasize the importance of an accurate histopathological diagnosis based on the immunohistochemical profile in a series of cases of GISTs with gastric localization. **Material and methods:** We studied six cases of gastric GISTs, two from 2019 and four from 2021, from the database of the Pathology Department of the Clinical County Hospital in Târgu-Mureș. All six cases were identified after surgical resection of the stomach. We assessed the distribution of the tumors by sex and age, we measured the average size by the greatest diameter, we determined the site of the primary tumor and compared histopathological subtypes, and we estimated the recurrence risk and the prognostic parameters according to NIH and AFIP. **Results :** We report that gastric GISTs were two times more prevalent in male patients than female patients (4 versus 2), even though the literature mentions equal distribution between sexes. The site and size of the tumors were highly variable (one was ruptured and excluded from measurement) with min=6 mm and max=155 mm. Among the six cases, five were subtyped as spindle cell GIST and one was typed as mixt GIST (spindle and epithelioid cells). According to the NIH risk of recurrence assessment, we identified three very low risk cases, one low risk and two high risk cases. According to AFIP prognostic assessment we identified three cases in category 1, one case in category 2, one case in category 3b and one case was non-assessable. We encountered particular situations: one case had a synchronous poorly cohesive gastric adenocarcinoma, another had a synchronous rectal adenocarcinoma, and one case presented as a ruptured tumor. All cases were positive for CD117 at immunohistochemical assessment. **Conclusions:** Although a rare tumor, a correct and timely histopathological diagnosis of GIST with gastric localization remains important regarding its evolution. We support the information existent in the current literature regarding the pathophysiology of GISTs, with the observation that in our study, we noticed a doubled incidence in male patients compared to the incidence in female patients.

Keywords: GIST, CD117, gastric cancer

AN APPRAISAL OF ONLINE ROMANIAN AND ENGLISH INFORMATION ABOUT THE ANAPHYLACTIC SHOCK

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Background: The anaphylactic shock is considered to be a dangerous condition due to its rapid onset and risk of mortality if not promptly recognized and treated. Therefore, a good level of knowledge is paramount for identification and early treatment. However, unlimited and easy access to various online sources makes it difficult for the general population to efficiently filter the correct information, particularly regarding life-threatening conditions such as anaphylaxis. **Objective:** The aim of this study was to evaluate the quality of information on Romanian and English websites, based on credibility, completeness and accuracy. **Material and methods:** This observational study included 50 websites, 25 in Romanian and 25 in English. Pre-established inclusion and exclusion criteria were used for selection. The evaluation of the quality of information occurred over a two and a half months period. Student t test was used to compare mean values of the subsamples and Pearson test to check the correlations. The statistical significance threshold was set at 0.05. **Results :** For Romanian websites the average values of credibility, completeness and accuracy were 5.8, 5.0 and 7.1 points respectively while for English websites, the credibility, completeness and accuracy scores were 7.3, 5.3 and 8.1 points respectively. The comparison tests between Romanian and English websites revealed statistically significant differences only for credibility (p=0.0324) and accuracy (p=0.0008). Significant moderate intensity correlations were found between three sets of parameters for Romanian websites: credibility and accuracy (r=0,4059 p=0,0441), Google rank and completeness (r=-0,4407 p=0,0275) and Google rank and accuracy (r=-0,6454 p=0,0005). No correlation were observed between the above-mentioned parameters for the English websites. **Conclusions:** The information

about anaphylactic shock on the Romanian and English websites seems moderate with the English websites scoring slightly better on some scales. Credibility scores and Google ranks are not consistently and strongly correlated with the completeness and accuracy of the information.

Keywords: anaphylaxis, accuracy, credibility, completeness

ASSESSING THE QUALITY OF INFORMATION ABOUT HYPOTHYROIDISM ON ROMANIAN AND ENGLISH WEBSITES

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Background: Hypothyroidism is a common condition. Given the easy access of the general population to information on the Internet, it is important that the assimilated notions are of high quality. **Objective:** Assessing the quality of information about hypothyroidism on Romanian and English websites, from the perspective of credibility, completeness and accuracy. Comparing the quality of information between Romanian and English websites. **Material and methods:** A cross-sectional study was conducted on a sample of 50 sites, respectively 25 in Romanian and 25 in English. Using a series of variables, the credibility, completeness and accuracy of the information were assessed. Comparison tests were used to determine whether the quality of information on English-language websites differed from Romanian-language websites. The statistical significance threshold was set at 0.05. **Results :** The average value for the credibility score for Romanian language sites was 4.8, and for English language sites it was 5.9. The average value of the completeness score for the Romanian language was 5.3, and for the English language 5.9. The average value of the accuracy score was 5.6 for Romanian and 5.7 for English. No statistically significant differences were found. **Conclusions:** The ability to understand and/or speak English language does not give one an advantage over another that speaks only Romanian language, regarding the acquirement of higher quality information about hypothyroidism.

Keywords: hypothyroidism, credibility, completeness, accuracy

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FLOWCYTOMETRIC CHARACTERIZATION OF CD14LOW/CD14HIGH MONOCYTES FROM PERIPHERAL BLOOD MONONUCLEAR CELL CULTURES WITH LIPID-RICH AUTOLOGOUS PLASMA

Măriuca Drăgan[1], Doina Ramona Manu, Minodora Dobreanu[1], Ion-Bogdan Mănescu[1]

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Background: Monocytes are leukocytes of the innate immune system and precursors of macrophages. In circulation, blood monocytes are in constant contact with lipoproteins and capable of taking up plasma lipids. Hyperlipidemia has been associated with increased risk of atherosclerosis, as well as with inflammation and up-regulation of adhesion molecules in endothelial cells and leukocytes. Thus, hyperlipidemia is involved in the recruitment of monocytes in the vascular wall and the occurrence of foam cells, which are a hallmark of atherosclerosis. **Objective:** The aim of this study was to investigate the activation and the lipid-uptake process of circulating monocytes during *in vivo* and *in vitro* exposure to hyperlipemic environments. **Material and methods:** Heparinized peripheral blood samples were obtained from seven healthy subjects after overnight fasting (T0) and 3h after a standardized high-fat meal (T3, in vivo hyperlipidemia). At both T0 and T3, the plasma lipid profile was assessed and a flowcytometric analysis of monocytes was performed after erythrocyte lysis (FSC, SSC, CD14, CD11b, BODIPY493/503). At T3 only, peripheral blood mononuclear cells were isolated and cultured with T3 lipid-rich autologous plasma. After 24h, nonadherent cells were analyzed with the same flowcytometry panel (T24, *in vitro* hyperlipemic environment). **Results :** At T0, two monocyte populations (CD14low/CD14high, $p<0.001$) with similar size (FSC) and internal complexity (SSC) were identified. The CD14high population showed a significantly higher CD11b expression ($p<0.05$) and lipid content (BODIPY, $p<0.01$). Although all flowcytometric parameters suffered nonsignificant decreases at T3 compared to T0, the differences seen at T0 between CD14low and CD14high monocytes, persisted at T3. At T24, both CD14low/CD14high populations showed significant increases ($p<0.05$) in SSC, CD14, CD11b and lipid content compared to their own levels at T3. Regarding the differences seen at 0h and 3h between the CD14low/CD14high populations, only the CD14high population showed a significant increase in FSC compared to its T3 level ($p<0.0001$), leading to a significant difference in size compared

to CD14low monocytes (p<0.001) at T24. The CD14high population maintained its significantly increased lipid content compared to CD14low monocytes (p=0.001), but there was no more significant CD11b expression between these populations at T24. Further analysis of raw and processed data suggests that plasma lipid concentrations may individually or collectively correlate with flowcytometric parameters. **Conclusions:** Monocytes are heterogeneous and versatile leukocytes. While sharing some common features, CD14low/CD14high monocytes respond distinctively in both fasting and hyperlipidemic states. Monocyte cultures are a useful tool for the investigation of different monocyte subtypes and their role in lipid metabolism and atherosclerosis.

Keywords: CD14 monocyte, lipids, BODIPY, flow cytometry

PSYCHOLOGICAL INFLEXIBILITY IN PATIENTS WITH MAJOR DEPRESSIVE EPISODE

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Background: Depression is a mental disorder affecting millions of people world-wide. It is characterized by a sad mood, of inner emptiness, accompanied by somatic and cognitive changes that disrupt the individual's ability to function. Psychological inflexibility is defined as the inability to adapt to environmental fluctuations, to reconfigure mental resources and to balance perspectives, desires and needs according to the current situation. **Objective:** The study aims to determine the relationship between psychological inflexibility and the development of major depressive episode. **Material and methods:** We conducted a prospective case-control analytical study that included a cases group of 30 patients with MDE diagnostic from Psychiatry II, Mures County Clinical Hospital and a control group of 30 people without pathology. The age's mean of both groups was 46.82, with SD=12.416. Data were obtained by completing the following questionnaires: Beck's Depression Inventory (BDI), Acceptance and Action Questionnaire (AAQ-II) and Cognitive Failures Questionnaire (CFQ). **Results :** After statistical data analyzing, we find out BDI's M=31, with SD=11.384 in the cases group, compared to the control group where M=4, with SD=2.933. AAQ-II's M=40.90, SD= 5.916 in the cases group and M=11.33, SD= 4.641 in the control group. We also find such a difference in the CFQ's mean, M=36.93, SD=6.068 versus M=11.97, SD= 7.008. Applying the t-test we have a p=0.0001, statistically significant, with a confidence interval of 95% **Conclusions:** Taking into consideration the results of the study, we can say that psychological inflexibility is positively correlated with the development of the major depressive episode. People without pathology obtaining much lower scores on the questionnaires applied than the cases group.

Keywords: depression, inflexibility, questionnaire

THE ROLE OF CT IN THE EVALUATION OF AORTIC ANEURYSM

Sârbu Cătălin[1], Ana-Maria Sandu[1], Andrei Manea[1], Mihaela Rațiu[1]

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Background: The aorta is the greatest artery of the human body, and it can be affected by a large spectrum of pathologies, acute or chronic. The aortic aneurysm is a permanent dilation characterized by a 50% greater diameter than the normal vessel dimensions which implies an insidious development, but with acute syndromes. **Objective:** The aim of this study was to analyze the parameters and the thrombotic complications of aortic aneurysm among both men and women for a correct diagnosis, given the little presence of symptoms. **Material and methods:** This study was based on a number of 30 patients examined by the Radiology Department of SCJU Mureș between 1st of May to 31st of December 2021 for a CT scan (Siemens and Somatom - 64 slice) with suspicion of Aortic Aneurysm. Demographic data and imaging findings were evaluated. **Results :** Thirty patients were admitted to the Radiology department of SCJU Mureș over the studied period. Of these, 8 (26,6%) were women and 22 (73%) were men. The patients were aged between 46 and 78 years old and the mean age was 61 ±8,7 SD years old. The aneurysm was located in the ascending aorta in eleven (36,3%) patients, in the thoracic descending aorta in seven (23,3%), and in the abdominal descending aorta in twelve (40%). The correlation between the diameter and the shape of the aneurysm applying the Fisher`s exact test, was statistically significant (P=0,024), as the greater diameter was found in the patients with fusiform aneurysms. Furthermore, the descending aortic aneurysm was found to be more frequent in men than in women (P=0.027). Analyzing the data, the thrombotic complications were found in 53% (n=16) of the cases, but women are more prone to aneurysm thrombus formation than men (P=0,04). **Conclusions:** The aortic aneurysm affects both older and younger people,

and even if this pathology is more often encountered in men, complications occur more frequently among women, and it should be diagnosed correctly before any acute syndrome.

Keywords: aortic aneurysm, ct scan, thrombotic complications

THE INFLUENCE OF GLIBENCLAMIDE ON THE BACTERIAL GROWTH RATE

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Background: The number of diabetic patients, at risk of developing infections, is increasing. Oral hypoglycemic drugs like glibenclamide are widely prescribed. Glibenclamide can increase the insulin secretion through the closure of ATP-sensitive potassium channels on beta cells, raising intracellular potassium and the calcium ion concentrations, but little is known about its direct effects on bacteria. **Objective:** To asses the direct influence of glibenclamide on the growth rate of Escherichia coli, Pseudomonas aeruginosa, Methicillin-Susceptible Staphylococcus aureus (MSSA), Methicillin-resistant Staphylococcus aureus (MRSA) and Klebsiella pneumoniae. **Material and methods:** By using the microdilution method, decreasing concentrations of pure glibenclamide were created in liquid Muller-Hinton 2X culture media. Standard 0.5 McFarland inocula were prepared by using Escherichia coli ATCC 25922, Pseudomonas aeruginosa ATCC 27853, MSSA ATCC 25923, MRSA ATCC 43300 and Klebsiella pneumoniae ATCC 700603 reference strains. Fifty microliters from inocula were added in each well of the sterile microtiter plate. Wells without substance addition served as growth control. The plates were incubated for 24 hours, at 35°C. The bacterial growth was spectrophotometrically appreciated at a wavelength of 620 nm. The optical densities of the wells with added glibenclamide were compared with the optical densities of the control samples. The results were expressed as percentages. **Results :** The extracted results showed that 0.98-500 ug glibenclamide/ml stimulates the growth rate of P. aeruginosa (23-40%). The highest growth rate stimulation (40%) for P. aeruginosa was observed for 15.63 ug glibenclamide/ml. All the studied concentrations (0.49-1000 ug glibenclamide/ml) stimulated the growth rate of MSSA by 9-33%. The growth rates of E.coli, MRSA and K. pneumoniae were mostly unaffected by glibenclamide. **Conclusions:** Glibenclamide might exert a direct effect on the growth rate of P. aeruginosa and MSSA, depending on the concentration used.

Keywords: Glibenclamide, Growth rate, Bacteria

ASSESSING THE QUALITY OF INFORMATION ABOUT PSORIASIS ON ROMANIAN AND ENGLISH WEBSITES. CROSS-SECTIONAL STUDY OF ONLINE RESOURCES IN ROMANIAN AND ENGLISH

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Background: Psoriasis is a chronic inflammatory disease with great impact on the patient and the people around him. The general population has unlimited access to online information services, so it is extremely important that websites contain valid and high quality medical information. **Objective:** The study aimed to assess the credibility, completeness and accuracy of online information about psoriasis in Romanian and English language. **Material and methods:** The cross-sectional observational study included a sample of 25 Romanian and 25 English websites. The selection was based on several inclusion and exclusion criteria. The credibility was assessed using a set of 12 largely accepted criteria. The completeness and accuracy of information was asessed using a quality benchmark developed with the contribution of two dermatologists. Credibility, completenes and accuracy scores were calculated on a scale from 0 to 10 points. The quality scores of the Romanian websites were compared with those of the English websites using Student-t test and Mann- Whitney test. The significance threshold was set at 0.05. **Results :** The average credibility score was 4.2 for the Romanian sites and 5.3 for English sites ($p=0.9726$). The average completeness score was 3.4 for the Romanian sites and 5.5 for English sites ($p<0.0001$). The average accuracy score was 5.1 for the Romanian sites and 4.6 for English sites ($p<0.0001$). **Conclusions:** Overal, the quality scores obtained were modest with many websites offering incomplete and inaccurate information about psoriasis. Although two of the comparisons yelded statistically significant differences, the superior scores were not high enough to provide a substantial advantage for the users accessing the website in the specific language.

Keywords: Psoriasis, Online medical documentation, Credibility, Accuracy

THE MEDICAL STAFF`S VISION ON PRAYER

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Background: Medicine focuses on the human body, while the human soul is the prerogative of religion. In today's society, faith is a topic that is rarely discussed, especially in a scientific context. Therefore, we want to know how present prayer is in medicine and what possible benefits it has for pacients. **Objective:** Thus, the study called "The medical staff`s vision on prayer" aims to analyze the opinion of health professionals on the use of prayer in medical practice, in addition to sound scientific knowledge. **Material and methods:** The study was conducted by completing an online questionnaire and was addressed to people working in the medical field: doctors, nurses, pharmacists, dentists, midwives. This method of psychological investigation was distributed on social networks for a period of 3 months: October 1, 2021 - January 1, 2022. The questionnaire refers to gender, age, educational status, marital status, medical status, background and includes 7 questions related to the main question: "Do you pray to God for your patients?" The sample consisted of 143 respondents from the medical sector. **Results :** 78% of the respondents were women. 75% of the participants come from urban areas and most of the respondents are between 25 and 29 years old. Of all medical staff, 69% say they pray to God for their patients. Of these, 89% say they pray alone. Moreover, of those who pray for patients, 95% pray in mind, and 44% practice prayer before, during and after completing a medical procedure. Following the prayer, it was found that often and very often those in the medical sector notice a change for the better in the patient's mood. In addition, it is noted that prayer has beneficial effects on the medical staff who practice it, as in 31% of cases, the medical staff feels hope and courage. **Conclusions:** The study showed that prayer, in addition to science, is present in medical practice. Thus, in the health sector, most respondents stated that they pray to God for their patients, and thus, they develop an optimistic attitude in dealing with medical conditions. Therefore, prayer is necessary, being the connection between body, mind and soul.

Keywords: medical staff,, prayer,, beneficial effects;

THE PSYCHO-SOCIAL IMPACT OF DEATH CAUSED BY COVID-19 ON PEOPLE OF DIFFERENT AGES

Amalia Zăgan[1], Alexandra-Roberta Oprea, Vlad Iustinian Oniga[1], Vinca Delia-Ștefania[1], Toader-Septimiu Voidăzan[1]

[1]UMFST Tîrgu Mureş

Background: The SARS-CoV-2 pandemic first broke out in Wuhan, the Province of Hubei, in China, in December 2019 and it spread in China and all over the world, and in Romania as well. SARS-CoV-2 virus has been the cause of many deaths worldwide. People were more affected by the death caused by COVID-19 than by the death of people which could occur in other circumstances.That is the reason why many people have developed mental disorders. **Objective:** The aim of this paper is to determine the psycho-social impact of death caused by COVID-19 on people of different ages and to make a comparison between them because, according to the age, the impact of the virus on people was different. **Material and methods:** In order to evaluate the psyho-social impact of COVID-19 deaths at different ages, a cross-selectional study was performed using an online questionnaire. There were 321 participants in this survey, men and women of different ages and of different educational levels from Romania. Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) and the Chi square Test. **Results :** Out of a total of 321 participants in this survey, 151 people (47.0%) are aged between 45 and 64 years old. The psychological impact of death caused by Covid-19 on people aged over 75 was: 60.0% of them suffered from fear and 40.0% of them were affected by depression. The mental changes after the death of a family member caused by COVID-19: 80.0% of people over the age of 75 suffered from fear, 40.0% felt anxiety, and among those aged between 65 and 74 years old, 39.3% suffered from fear. Due to the death caused by Covid-19, 100.0% of people over the age of 75 changed their perception about the virus but among the people aged between 18 and 24 years old, only 35.1% of them changed their perception concerning the virus. **Conclusions:** The psycho-social impact of COVID-19 deaths is stronger among people over the age of 65, which has made them change their perception concerning the virus.

Keywords: Covid-19 death, mental change, fear

THE WAY BIOINFORMATIC ANALYSIS COULD FACILITATE THE IDENTIFICATION OF TP53 GENE MUTATIONS IN COLORECTAL CANCER

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Background: Mutation and thus inactiveness is most commonly observed in case of the TP53 gene in various types of malignant diseases. Considering this, it would be important to adapt a procedure that could facilitate structural analysis of the TP53 gene sequenced from the sample of a patient with colorectal cancer. Bioinformatics provides a good alternative to this, allowing the comparison of the tested gene with the normal one. **Objective:** The aim of our research is to create a procedure that, with the help of bioinformatics, can facilitate the detection of mutation hotspots of the TP53 gene in patients diagnosed with colorectal cancer. **Material and methods:** Most mutations in TP53 are missense and lead to the synthesis of a defective p53 protein that will not be able to perform its function. To detect mutations in TP53, we chose a bioinformatics approach, based on a one-by-one comparison of the sequenced gene with the normal one, with specific exon analysis. The application is written in Python 3.0 and is based on the BioPython library. For the ease of use, the source lines of code running in the background also have a frontend interface, which is available online to anyone. **Results :** With the help of our solution a specific analysis of the TP53 gene can be done, facilitating the detection of any mutations compared to the normal sequence. The mutations already described and classified in bioinformatics databases of malignancies can help in the process of interpretation of the results. **Conclusions:** Although an existing change in the structure of the gene does not mean malignancy, it can definitely help to assess the risk of developing colorectal cancer. In conclusion, the procedure we have developed could make a significant contribution in the diagnosis of colorectal cancer, making it a widely applicable tool in modern medicine.

Keywords: TP53 gene, colorectal cancer, bioinformatics, mutation hotspots

THE IMPORTANCE OF SLEEP DURING EXAM SESSION

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Background: It is known that sleep plays a key role in maintaing a good mental health,helping in a process of qualitative and lasting memory.It is well known among medical students that lack of sleep is a common habit because they have a large amount of information to accumulate.The number of hours slept per night can influence the student's productivity, so that in a more stressful period the lack of sleep can trigger a more severe state of fatigue, which is observed by a low performance. **Objective:** Following the study, we wanted to capture the impact and role of sleep in the life of the medical student during the exam session. **Material and methods:** We conducted a descriptive cross-sectional study where 72 students were included as sixth year respondents at the Faculty of Medicine,and as a method of psychological investigation the questionnaire was used. **Results :** Of the 72 subjects, 24% were male and 76% were female. An urban prevalence of 71% was observed. Living conditions showed that 58% live in rented accommodation, 25% in dormitories and 17% with their parents. The importance of sleep was observed in a percentage of 100% motivating this answer by the fact that sleep provides them with energy (42%), a better concentration (25%), an efficient yield (19%) and they feel more productive (14%).) during the session. Fatigue was felt more strongly in 82% of students, stress (51%) being the main factor motivating them, failing to plan their time effectively. 54% of students sleep at least 6-8 hours / night before an important exam, 18 (46%) of respondents motivating that they feel more rested, 33% consider that they do not sleep at least 6-8 hours / night, stress and going through the subject for examination being the main causes. **Conclusions:** Sleep is of major importance in achieving the goals of medical students. Stress is a significant factor in short-term fatigue. For good mental health, a restful and good quality sleep is recommended.

Keywords: sleep, mental health, exam session

ETHICS OF ARTIFICIAL INTELLIGENCE IN MEDICINE

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Background: Artificial intelligence (AI) has the potential to change the face of society. It can be defined as "the ability of a computer or computer-controlled robot to perform complex tasks usually performed by humans". Its plentiful uses in medicine include medical image analysis, diagnosis, prediction of disease progression, and screening. Before a new piece of technology can be integrated into medical practice, the ethical implications of using such technology have to be scrutinised. This is to reduce the potential harms perpetrated by the technology upon not only patients but also healthcare providers and society at large. Examples of major ethical concerns regarding AI include liability, transparency, bias, confidentiality, and accuracy. **Objective:** This paper aims to examine the attitudes of medical students toward AI technology in medicine. **Material and methods:** A survey was sent to UMFST medical students through social media in March 2022. The survey was broken down into two parts: 1) Ethical concerns from a future doctor's perspective. 2) Ethical concerns from a patient's perspective. Participation in the survey was anonymous and voluntary. **Results :** Out of 128 participants, 65,6% felt that AI should be used in medicine. Out of 4 ethical concerns listed (bias, liability, transparency, and accuracy), 49,2% answered liability as their greatest concern as a future doctor, 22,7% answered machine transparency. On whether to follow the recommendations given by an AI as a doctor, 60,2% were unsure, 21,9% answered yes and 18% answered no. Regarding whether using AI would lead to a loss of confidence in medical staff, 57,8% answered yes and 28,1% were unsure. 53% of respondents felt unsure that they would personally follow the recommendation of an AI as a patient, 24,2% answered yes and 22,7% answered no. Out of the same ethical concerns as section 1, 54,7% felt that machine accuracy was their biggest worry, 25% answered liability, 13,3% transparency and 7% answered bias. **Conclusions:** Most students surveyed are concerned with liability when using AI. This is an issue that needs to be solved because it can either lead to an overreliance on AI if liability is lifted from the doctor or underutilizing of the technology which would make the usage of AI in medicine redundant. From the perspective of a patient, most students felt that accuracy was their largest concern. Before AI is integrated properly into the medical sphere, stringent testing, safety protocols, and regular inspections have to be introduced.

Keywords: Artificial intelligence, Ethics, Medical technology

THE INFLUENCE OF PHYSICAL ACTIVITY UPON CARDIOVASCULAR DISEASES

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Background: It is well known that cardiovascular diseases remains the leading cause of death worldwide, although over the past two decades the rate of cardiovascular mortality has fallen in many high-income countries. Performed regularly and in the right amount, physical activity improves muscle and cardiorespiratory function, bone health, reduces the risk of high blood pressure, coronary heart disease, stroke, diabetes, various cancers, depression and is fundamental to energy balance and weight control. Accumulated evidence has shown that physical activity not only reduces the risk of cardiovascular diseases, but also directly provides endogenous cardiovascular protection, by lowering the inflammatory level involved in atherogenesis and modifying the traditional risk factors for cardiovascular diseases. **Objective:** The purpose of this paper is to determine the influence of physical activity upon cardiovascular diseases, especially by making the difference between the age groups from which an active life began and to determine if Romanian people realize the importance of this correlation. **Material and methods:** A cross-selectional study was performed using a questionnaire consisting of 31 questions, which was administrated through an online form or as printed papers to people. In this study, there were 1001 participants, women and men of different ages from Romania. Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) and the Chi Square Test. **Results :** Out of a total of 1001 participants in this survey, the majority of the responses are female, 808 (80,7%), compared to only 193 (19,3%) male. Most of people who responded to the survey are aged between 45-64 years old, 263(26,3%), and 35-44 years old, 257(25,7%). Most of Romanian people think that physical activity can improve lifestyle, 987(98,7%), but only 421(42,1%) of them are really practicing it. From the people with age between 45-64 years old, 154(15,4%) are suffering from cardiovascular diseases **Conclusions:** The results confirm that Romanian people are practicing

physical activity, regardless of age. Of those who didn't, most of them regret it, because they believe that their cardiovascular disease could have been prevented.

Keywords: Physical activity, Cardiovascular disease, Lifestyle, Age

THE STUDY OF NEUROANATOMY THROUGH MRI EXAMINATIONS FOR STUDENTS

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Background: Neuroanatomy studies the central and peripheral nervous system using a structural and a functional approach.The basic notions can be developed through imaging studies that provide a wide range of valuable information that can be correlated with the study of anatomical structures. **Objective:** The aim of this study is to help students aquire a better understanding of some notions of neuroanatomy through the study of the ventricular system and the cavum septi pellucidi and cavum Vergae. **Material and methods:** For a better understanding of neuroanatomy ,we performed an MRI of a brain which we have dissected and for the study of ventricular system we used cranial MRIs performed for 50 patients.In our measurements we included the coronal,axial as well as the sagital plane in the T1 sequence. Coronally,we measured the frontal horn and the ventricular body of the two lateral ventricles .In the axial plane we measured the ventricular body,the atrium and the presence and absence of the posterior horns.In the sagittal plane we measured the distance from the anterior horn to the atrium. Furthermore, we measured in the axial plane,latero-lateral cavum septi pellucidi and cavum Vergae when they were present. **Results :** For the measurements performed on the right and left lateral ventricle,we found a correlation between the dimensions in the coronal plane of the right frontal horn and the left one and the right ventricular body in comparison with the left one (p=0,0001),in the axial plane is a correlation between the right ventricle body and the left one (p=0,02) ,in the axial plane between the dimensions of the right and left occipital horn (p=0,03).There is a significant correlation in the sagital plane between the frontal horn and the atrium (p=0,001). We also obtained a positive correlation between the age of the patients and the size of the lateral ventricles.We observed the presence of cavum septi pellucidi in 22% and cavum Vergae in 26% of the patients.There is a predominant presence of chronic sinusitis in men (maxillary 34.6% ,frontal and ethmoidal 11,5% ,sphenoidal 15,5% with a p=0,04). 46% of the performed MRIs were without changes in the brain substance. **Conclusions:** There is a difference between the size of the right lateral ventricle and the left one.Cavum septi pellucidi and cavum Vergae are inconstant and do not occur in very patient.The size of the lateral ventricles increases with age.There is a predominant presence of chronic sinusitis in men.

Keywords: Neuroanatomy, Anatomical structures, Correlation, Imaging

WHAT IS THE RISK OF DEVELOPING A GASTROINTESTINAL INFECTION IN THE GENERAL POPULATION?

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Background: Although the prevalence of food poisoning has increased, the importance of food safety is a topic addressed by few authors in public health. Lack of education in food hygiene, reduction of food quality through the use of raw material substitutes, preservatives, additives, dyes, correctors and many other means have led to outbreaks of disease among the population. **Objective:** These are represented by answering questions such as: where and why did more people become infected?, which groups are most affected by different divisions? (age, sex, level of education), which foods predispose us to illness? **Material and methods:** This study included a number of 315 volunteers who participated by completing on a voluntary basis, a questionnaire consisting of 37 questions with simple or multiple-choice answers, and some questions required a short descriptive answer. An attempt was made to gather as diverse a population as possible, at least 18 years old. Data processing was performed using SPSS (Statistical Package for the Social Sciences). **Results :** The application of the Chi2 test resulted in a p = 0.16, so the correlation is statistically insignificant for the link between the source environment and the possibility of infection. The value of p = 0.04 is significant and shows us the important link between the level of education that can influence the appearance of the disease. The link between the source of food procurement and the risk of gastrointestinal infection by obtaining a p = 0.002 is a statistically significant one. The water source can also be a danger to public health, as evidenced by the significant link given by the value of p = 0.02. Sources, such

as wells, recorded results of 15.6% of people among the sick. **Conclusions:** The environment of origin of the individual does not influence the appearance of the disease, as long as the food hygiene measures are correctly applied. But the place where we get our food can be a possible source of infection, it depends on us how we manage to select the best sources of supply for the home. Education plays an important role in preventing foodborne infection. Consumption of certain foods is a higher risk factor (such as meat and eggs).

Keywords: food hygiene, nutrition, infection, gut health

STRESS AS A RISK FACTOR IN THE DEVELOPMENT OF GASTROINTESTINAL DISORDERS. STUDY CONDUCTED ON UMFST "GEORGE EMIL PALADE" STUDENTS

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Background: Stress is considered a quite wide field, representing the main problem that humanity is facing. Many studies have been done based on the effects of stress on the human body and it was found that these effects include the development of gastrointestinal disorders. During these six years of study at the Faculty of Medicine, we noticed that many of our colleagues developed various disorders of the gastrointestinal tract and the most likely causes of these problems are stress, fatigue, a chaotic rhythm, or a busy and demanding schedule. **Objective:** The objective of this study is to demonstrate the hypothesis that there is a risk of developing a gastrointestinal tract disorder following exposure to stress, on two groups of students from UMFST "George Emil Palade" in Târgu Mureș. **Material and methods:** We conducted a study based on a sample of 329 students, divided into two groups: 214 students from Medicine and 115 students from Science and Technology. Subjects completed a digital questionnaire consisting of 35 questions. We processed the data using SPSS (Statistical Package for the Social Sciences). The CHI-Square Test was used for statistics and p-value <0.05 was considered for statistical significance. **Results :** Of the 329 participants, 58.3% of students in Science and Technology have a rather rare or even non-existent exposure (7%) compared to medical students, where exposure to stress occurs in a percentage of 52.3% quite often or very often (33.6%). Following the application of the square CHI test to determine the correlation between the faculty and the development of a gastrointestinal tract disorder, we obtained a p-value = 0.01, representing a statistically significant association between these parameters. Thus, medical students developed a percentage of 84.6%, gastrointestinal tract disorders, and the other group of students a percentage of 73%. Among the medical students, the following gastrointestinal symptoms predominate: burning sensation, vomiting, diarrhea, constipation, or bloating, and Science and Technology students were more likely to experience nausea or abdominal pain. **Conclusions:** As expected, gastrointestinal symptoms are more common during the examination session for both groups of students, when exposure to stress is maximum. Finally, a stress prevention program should be implemented to reduce the risk of developing gastrointestinal tract disorders.

Keywords: stress, gastrointestinal disorders, students

PROFESSIONAL SATISFACTION OF ANESTHESIA AND INTENSIVE CARE RESIDENT PHYSICIANS IN PANDEMIC ERA - PSYCHO-ORGANIZATIONAL APPROACH

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Background: During the Covid-19 pandemic, Anesthesia and Intensive Care (AIC) Unit faced a large number of patients, and for the front-line physicians of this unit, the newly generated situation meant a big challenge, moreover, they passed from the heroes to the torturers status. **Objective:** The aim was to assess the professional satisfaction of the resident physicians who worked at AIC Unit, in the pandemic period, from a psychological and organizational perspective. **Material and methods:** We performed an observational study in 2022, between the 21st of January and the 25th of March, based on anonymous structured questionnaire that included 30 questions analyzing multiple aspects of the professional satisfaction of 126 Romanian AIC resident physicians, in the context of the pandemic period. The questionnaire was distributed on various online platforms. Data was processed with Excel Microsoft and analyzed with GraphPad. **Results :** The gender distribution, male-to-female ratio, was 1.63/1 (78 males) with the sample mean age of 30.01 ± 2.01 years old (range 24 - 45 years). Burn-out was reported by 90.48% of respondents, while 86,51% of subjects were not satisfied with their income, and at the same time 69.05% were aware and informed about the occupational hazards. The good relation with the work's colleagues

was mentioned by 65.08% of physicians. Single status has been stated by 32.54% of respondents.14.29% of subjects reported contemplating suicide or having ruminative thoughts. **Conclusions:** Burn-out and salary dissatisfaction prevail among a significant proportion of Anesthesia and Intensive Care resident physicians. Furthermore, extended research and implementation of psycho-socio-economic programs and legislative measures to improve working conditions in the field of healthcare are imperative.

Keywords: resident physicians, professional satisfaction, COVID-19 pandemic, burn-out

AGGRESSIVE BEHAVIOUR OF COLORECTAL CANCER IN RURAL POPULATION: AN OBSERVATIONAL STUDY

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Background: Colorectal cancer is one of the most common malignancy, being the 2nd most prevalent in males and 3rd in females worldwide, 4th and 3rd leading causes of cancer mortality, respectively. Socio-economic status plays a crucial role in the prevention, diagnosis, and progression of colorectal cancer. **Objective:** The aim of this study was to assess if colorectal cancer in rural populations shows a more aggressive behavior in comparison to urban populations. **Material and methods:** A retrospective, observational study was done in which data were collected from the Department of Pathology of the Clinical County Emergency Hospital in Târgu Mureș, Romania, over a period of 5 years, between 2016 and 2020 (1016 cases in total). All cases of colorectal adenocarcinoma were included in the study. Exclusion criteria were malignancies of any other histotype (e.g., lymphoma) with localization in the colon or rectum. Aggressive behavior was assessed by comparing the following variables: age, sex, macro- and microscopic features, localization, LNR, lymph node metastases, pT stage, budding grade and microsatellite instability status. **Results :** Four variables showed a significant statistical correlation between the aggressive behavior of colorectal cancer and living in rural areas. Rural-urban distribution of the cases showed that 460 patients came from rural areas and 556 from urban areas. Gender distribution was as follows 633 males and 383 females. Relevant statistical difference was observed correlating macroscopic aspect (p=0.0245), microscopic aspect (p=0.0404), tumor localization (p=0.0171) and pT stage (p=0.0036) with living environment. **Conclusions:** Based on the results of the study, patients with colorectal cancer coming from rural areas are predisposed to a more aggressive behavior of this malignancy.

Keywords: colorectal cancer, aggressive behavior, rural population

THE RELATIONSHIP BETWEEN ACCEPTANCE LEVEL AND DYSFUNCTIONAL NEGATIVE EMOTIONS AMONG MEDICAL STUDENTS IN A PANDEMIC CONTEXT

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Background: Negative thoughts and dysfunctional feelings represent different psychological processes for all human beings. However, the difference between the adaptive and maladaptive responses of the individuals to the specific stimulus, provided by the environment, is related to the frequency and intensity of the negative automatic thoughts and dysfunctional emotions. In the current context of the COVID-19 pandemic, the levels of worry and uncertainty are very high in the general population. Moreover, due to the COVID-19 pandemic, the distress related to academics tasks, can increase in the case of medical students. **Objective:** The aim of this study was to investigate the relationship between acceptance, as a psychological process, and dysfunctional emotions among the medical students from preclinical and clinical years at the University of Medicine, Pharmacy, Science, and Technology "George Emil Palade" in Târgu-Mureş during the COVID-19 pandemic. **Material and methods:** This study included 107 students, 86 (81,1%) were female and 20 (18,9%) male, of whom 51 were in their preclinical years and 56 in their clinical years of medical school. In this study, we used the Acceptance and Action Questionnaire II (AAQ-II). This psychometric instrument was applied to two groups of medical students, one from the preclinical years (years I-III) and another from the clinical years (years IV-VI). **Results :** The statistical interpretations of the results were made using the statistical software SPSS, version 23 and the statistical test was the Chi-Square Test which had been applied to compare the online survey answers from the 2 groups of students. The comparison tests did find significant differences between these 2 groups to 7 out of 10 questions (question 2

p=0,013; question 3 p=0,005; question 4 p=0,06; question 5 p=0,016; question 7 p= 0,001; question 8 p= 0,001; question 9 p= 0,018). **Conclusions:** The study confirms that students in clinical years (years I-III) have more flexibility, have a better way of managing dysfunctional negative emotions compared to students in preclinical years (years IV-VI).

Keywords: acceptance, emotions, pandemic, AAQ-II

SPECIFIC EARLY MALADAPTIVE SCHEMAS AS MODERATORS OF THE IMPACT OF NEGATIVITY, PUNITIVENESS AND VULNERABILITY TO HARM ON DEPRESSION.

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Background: Depression is a common but serious mood disorder and affects one's day-by-day activity and social intercourses. An early-maladaptive schema (EMS) is a pervasive self-defeating, dysfunctional theme or pattern of physical sensations, emotions, and memories developed during young age and elaborated throughout the whole lifetime. Limited research has explored so far the relationships between specific EMS and depression, moreover with equivocal findings. This study examined the validity of specific EMS domains (NP-Negativity/Pessimism; PU-Punitiveness and VH-Vulnerability to Harm/Illness) in accounting for the severity of depression among medical students(N=58) and patients diagnosed with clinical depression(N=40). **Objective:** The study aimed to evaluate if there are significant differences in scores on questionnaires for specific EMS between patients diagnosed with depression and undergraduate students in medical sciences. **Material and methods:** The study presented is of a prospective cross-sectional, observational nature. This descriptive and analytical study involved examining data collected from a non-clinical sample(58 undergraduate medical students from UMFST Targu-Mures), and from a clinical sample(40 patients diagnosed with depression from SCJ-Mures), all aged between 18 to 32 years - for the non-clinical sample-M=23.83-x years; SD=1.18 and for the clinical sample-M=23.55-years; SD=3.57). The four outcome variables of interest included measures of depression, NP, PU, and VH, and were assessed using the Romanian-version of the Beck Depression Inventory 2(BDI2) and the Romanian-version of The Young Schema Questionnaire Short-form-3(YSQ-S3). **Results :** We did obtain a moderate-statistically significant results for: the correlation between BDI-score and NP($p<0.01$,$r=0.55$), BDI-score and PU($p<0.01$,$r=0.57$), BDI-score and VH($p<0.01$,$r=0.57$), all for the non-clinical sample. On the other hand, we did not obtain statistically significant results for: the correlation between BDI-score and NP($p<0.01$,$r=-0.21$), BDI-score and PU($p<0.01$, $r=0.02$), BDI-score and VH($p<0.01$,$r=-0.01$) for the clinical sample. The T-test to independent samples was applied and the results showed that there are statistically significant differences between the two samples for all the variables measured. **Conclusions:** According to the results, in the non-clinical sample, a higher level of NP,PU, and VH is associated with a higher level of depression, but in the case of patients suffering from depression, this linear relationship is no longer observed, the association being variable. A possible explanation for these findings would be that an increased level of these specific EMS(NP,PU,VH) predicts a person's chance of having a higher level of subclinical depression and also a chance that the person will develop depression, but in patients who are already diagnosed, a higher level of specific EMS(NP,PU,VH) does not necessarily predict a higher level of depression.

Keywords: EMS, depression, schema therapy

TRANSVERSAL STUDY ON THE CREDIBILITY AND QUALITY OF ONLINE INFORMATION ABOUT LIVER CANCER

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Background: Hepatocellular carcinoma is the most common form of primary hepatic cancer, causing the second-highest mortality rate due to a malign disease globally. In the new internet era, people with medical symptoms will primarily visit a health-related website in search for answers, then make a medical appointment eventually. The internet is supposed to provide proper information to users and to assist the physician toward an early diagnosis. **Objective:** The primary aim of this study was to evaluate the credibility, completeness, and accuracy of the information about hepatic cancer available online in Romanian and English language. The secondary aim was to evaluate the correlation between the credibility and Google rank of the websites on the one hand and the

completeness and accuracy scores on the other. **Material and methods:** The study included a sample of 25 websites for each language. The websites were selected based on inclusion and exclusion criteria. Credibility was evaluated using 12 criteria derived from the eEurope 2002 expert recommendations. Completeness and accuracy were evaluated using a quality scale developed specifically for hepatocellular carcinoma with the contribution of two specialists. Two independent evaluators analysed and ranked the medical content about hepatic cancer on the websites. The credibility, completeness and accuracy scores were computed on a scale from 0 to 10. The Student's t-test was applied to compare the two language subsamples. Pearson's test was used to test the correlations. The threshold for statistical significance was set at 0.05. **Results :** The mean scores of credibility, completeness and accuracy for Romanian and English language : 4.3 and 7.2 ($p<0.0001$); 3.9 and 4.9 ($p<0.0644$); 4.6 and 6.3 ($p<0.0146$) respectively. The correlation tests yielded the following results: credibility-completeness $r=0.3543$ ($p=0.0823$) for Romanian sites and $r=0.4636$ ($p=0.0196$) for English sites; credibility-accuracy $r=0.4065$ ($p=0.0438$) for Romanian sites and $r=0.2496$ ($p=0.2288$) for English sites; Google Rank-completeness r==-0.08259 ($p=0.6947$) for Romanian sites and $r=-0.3326$ ($p=0.1043$) for English sites; Google Rank-accuracy $r=0.01785$ ($p=0.9325$) and $r=0.09764$ ($p=0.9631$) for English sites. **Conclusions:** Overall, the quality scores of the websites presenting information about hepatocellular carcinoma in Romanian and English language were modest. The accuracy and credibility scores were found significantly higher in English language scores, but the completeness score was comparable to the Romanian language score. The Google Rank did not show any correlation with the accuracy and completeness of the content, while the credibility scores moderately correlated with one out of two quality scores in both languages.

Keywords: #hepaticcancer, #onlinehealth, #medicalinformation, #qualityandcredibility

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SPORTS AND DOPING. WHY IT IS IMPORTANT TO AVOID DOPING ?

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Background: Doping has become a significant and complex issue in the sports field, which deserves attention. In the last years,coaches, doctors and psychologists have tried to understand the motivation behind the use of banned active substances by athletes. These substances can be found sometimes in medicines bought from pharmacies. The use of an active substance or a drug to be considered doping must meet at least two of the following three criteria: to enhance performance, violate the spirit of sports and cause damage to the body.These products and methods have consequences on the athletes health and image. **Objective:** This paper aims to identify medicines that contain substances on the list of banned substances during the competition found in pharmacies in Romania and highlight the side effects that doping could cause if the recommended doses are exceeded **Material and methods:** This review identified studies through a PubMed search. Also, Mediately was used to identify which medicines are OTC and could be banned in competitions. The results were restricted to English. This article reviewed the findings of each article selected for this research.The final analysis included all the papers published in the last ten years about doping in sports, drug abuse in athletes, enhancing performance drugs, banned substances during competition, sports and pharmacology, the law in sports, and the history of doping. **Results :** Most medications on the banned list during competition are available in pharmacy only with a medical prescription. The side effects of doping drugs are very different. Most often, brain and heart damage and mood changes are present. Also, doping can lead to death. Doping products and methods have consequences not only on the health of the athletes but also on their image. **Conclusions:** Doping with banned substances during competition is a frequent and severe health problem. Authorities need to inform athletes about the risks they are exposed to, knowledge of the side effects is essential to prevent doping in sports.Considering why and how athletes dope proves the importance of ANAD and the importance of adequate training and education.

Keywords: stimulants, narcotics, opioids, glucocorticoids

COMPARISON STUDY OF GATED VS. UN-GATED CT ANGIOGRAPHY IN ASSESSING ASCENDING AORTA DISSECTION

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Background: Aortic dissection is one of the most life-threatening vascular diseases. Therefore, a prompt

diagnosis and treatment are essential for the affected patients. Predisposing factors, such as hypertension, Marfan-syndrome and Ehlers-Danlos-syndrome are among other conditions important to identify. In this study our aim is to compare the ECG-gated CT angiography with un-gated CT angiography as diagnostic tool. **Objective:** The aim of the study is to compare the un-gated CT angiography with the gated CT angiography, to evaluate, which method is superior in assessing ascending aorta dissection. **Material and methods:** The study included 66 participants, of which 39 were students, 15 were radiology residents and 12 were radiology specialists. An online questionnaire was used to collect data, which was then analyzed using Microsoft Office Excel. The survey included 20 CT scans with seven ECG gated and seven ungated images. In each group (gated and un-gated) three images were repeated. From the 20 used CT scans were eleven (four repeated images) without aortic dissection and nine (two repeated images) with aortic dissection. **Results :** The intraclass correlation coefficient has the highest agreement between the groups of students and residents with a value of 0.686. The second highest correlation was found between the specialists and the students with a value of 0.508. The intraclass correlation between residents and specialists was lowest with a value of 0.437. Specialists have the highest inter-reliability (0,427), followed by residents (0,424) and students (0,255). Also, the intra-reliability is highest among specialists (0,766) and lowest in students (0,675). The gated CT image (question number four in the survey) received the highest precision regarding the correct diagnosis with 93,90% correct answers. In contrast to this is an ungated CT image (question number eight) where only 18,20% were able to make the correct diagnosis. **Conclusions:** Due to the fewer artefacts in the 64-slice CT, gated CT angiography makes it possible to generate a better image about the ascending aorta. All participating groups were able to diagnose ascending aorta dissection more precisely, if an ECG-gated CT was used.

Keywords: ascending aorta dissection, gated CT angiography, comparison study

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THE ANALYSIS OF INFECTIONS IN PEDIATRIC PATIENTS DIAGNOSED WITH MALIGNANCIES

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Background: Cancer is a major problem of public health worldwide remaining one of the main causes of morbidity and mortality in all countries. Adherence to clinical trial protocols and sustained care for cancer patients, children and adolescents has reduced the risk of mortality by more than 50% in the last three decades. Overall, the 5-year survival rate for pediatric cancer patients increased to approximately 80%. **Objective:** The aim of this study was to analyze the correlation between childhood malignancies and infections present during them to pediatric patients hospitalized in Târgu-Mureș. **Material and methods:** The retrospective-descriptive study included 29 children, with multiple hospitalizations, seeking care at hospital unit in 2021, having analyzed the cases from the Pediatrics Department at Clinical County Hospital of Târgu Mureș. Last year there were 116 hospitalizations, resulting an average of 4 hospitalizations per patient. **Results :** From the group of 29 respondents, with 116 hospitalizations 9 (7,75%) of them have been confirmed with infections. It was determined that in 66,66% of cases confirmed with infections the acute inflammatory factors(ESR and CRP) have increased, the complete blood cell counts, with differential and platelet counts have proved that only 55,55% cases revealed an increase of leukocytes. 66,66% of cases showed low hemoglobin values. Viral infections account 55,55% of all infections, bacterial infections account 33,33%, and 11% of infections have an unknown etiology. Infections occurred more frequently in patients diagnosed with acute lymphoblastic leukemia(55,55%), and patients with infections associated with solid tumors(33,33%) accounted for a lower percentage. **Conclusions:** About 7,75% of patients with malignancies with multiple hospitalizations seeking care at hospital unit in 2021, the Pediatric Department, developed an infection, but all of them have had a good evolution. Early prevention measures and fast detection of infections should be considered in order to improve their quality of life, reduce the risk of mortality.

Keywords: childhood malignancies, infections, pediatric patients

THE IMPORTANCE OF IMMUNOHISTOCHEMICAL MARKERS IN THE STAGING OF PRIMARY CUTANEOUS MELANOMA

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Background: Melanoma is the most aggressive form of skin cancer exhibiting a growing incidence worldwide. Its invasion is evaluated based on the Breslow thickness (BT), which is the most reproducible histopathological parameter with vital importance in the staging and prognosis of primary cutaneous melanoma (PCM). Currently, the evaluation of BT performed on hematoxylin and eosin (HE) staining is considered as gold standard, but the presence of isolated nests of tumoral cells in the dermis or the areas of regression may cause difficulties in its precise measurement. Therefore, immunohistochemical markers such as S-100, HMB45 and Melan-A have been proposed as complementary tools for diagnosis. **Objective:** The aim of this study was to compare the efficiency of the immunohistochemical markers S-100, SOX10, HMB45 and Melan-A with the conventional HE in the BT evaluation of PCM. **Material and methods:** This retrospective study was conducted in the Department of Pathology of the County Clinical Hospital Mures between January-December 2021 based on 27 cases of PCM, selected using predefined inclusion and exclusion criteria. The BT was evaluated on 5 slides stained with HE, S-100, SOX10, HMB45 and Melan-A. Data were statistically analyzed using GraphPad Prism 7 at a level of statistical significance of $p<0.05$. **Results :** The most frequent histological subtype was the nodular melanoma (56%), with ulceration present in 40% of the cases. Based on HE staining T4 was the most frequent staging category, followed by T1a. The values of BT measured on HE and the 4 immunohistochemical markers showed a statistically significant difference ($p<0.0001$). The lowest BT values were measured on HE and HMB45 staining, while the highest values were recorded for S-100. The BT measured on S-100, SOX10 and Melan-A stains were significantly higher than those measured on HE, with S-100 showing the greatest difference ($p<0.001$). The concomitant use of the 4 immunohistochemical markers identified a deeper tumor invasion compared to HE in 19 cases (70.37%). **Conclusions:** BT evaluation based exclusively on HE staining could underestimate the depth of the tumor invasion and therefore, immunohistochemical techniques may represent a complementary method for its measurement. Based on our observations, the combination of S-100, SOX10 and Melan-A could allow a more precise assessment of the tumor invasion.

Keywords: primary cutaneous melanoma, Breslow thickness, hematoxylin and eosin, immunohistochemical staining

THE QUALITY OF PANCREATIC CANCER INFORMATION - A CROSS-SECTIONAL STUDY OF ROMANIAN AND ENGLISH WEBSITES

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Background: Pancreatic cancer is one of the most silent and deadly diseases, it often gives symptoms in an advanced stage. Concern for the prevention of diseases through measures to combat risk factors, early identification of causes and avoiding complications has extended in the digital environment. **Objective:** The study aimed to evaluate the quality of information on pancreatic cancer, available on Romanian and English-language sites in terms of credibility, completeness, and accuracy. **Material and methods:** The observational, cross-sectional study collected data from 50 sites on pancreatic cancer, 25 in Romanian and 25 in English. The procedure of elaborating the benchmark involved the collection of information from the literature about pancreatic cancer, selecting relevant data for the reader. Two specialists, a gastroenterologist and an oncologist were involved in the evaluation of the benchmark. A set of general characteristics and the compliance to the credibility criteria (eEurope 2002) were assessed by one evaluator. The information quality was assessed based on the topic specific benchmark by two independent evaluators. Relative credibility, completeness and accuracy scores were calculated on a scale from 0 to 10 from the raw scores to facilitate interpretation and comparability between different web pages. The statistical differences between the quality scores of the Romanian and English web pages were verified using the non-parameric Mann-Whitney U test and the unpaired Student T test. The correlations between the quality scores were verified with the Spearman correlation test and Pearson correlation test. Alpha was set at 0.05. **Results :** The credibility scores of the Romanian and English websites were 5.8 and

7.6 respectively (p = 0.0174). The completeness scores of the Romanian and English websites were 4.5 and 5.8, respectively (p=0.0144). The accuracy scores of the Romanian and English websites were 5.5 and 7.6, respectively (p = 0.0014). For the Romanian websites, the following correlation coefficients were obtained: credibility-completeness r = 0.2265 (p = 0.2763), credibility-accuracy r=0.3176 (p = 0.1219), Google Rank-completeness r=-0.1332 (p = 0.5256), and Google Rank-accuracy r=-0.2731 (= 0.1865). For the English websites were noted the correlation between credibility and completeness r=-0.1388 (p = 0.5112) and the correlation between credibility and accuracy r=-0.364 (p= 0.0825), also the Google-Rank-completeness r=-0.1597 (p=0.4456) and Google Rank-accuracy r=0.1388 (p=0.5082). **Conclusions:** In conclusion, the quality of medical information found online about pancreatic cancer was not reliable to guide the patient's treatment. This was evidenced by the average scores which were low for both of languages.

Keywords: pancreatic cancer, internet, Romanian, English

TIMELINE OF EVOLUTION OF MALIGNANT TUMORS: PRELIMINARY RESULTS

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Background: Although new histological classifications and staging systems were proposed along the years and clinical management was modified, the prognosis of the main histological type of malignant tumors seems to not be significant changed. **Objective:** To compare the number and localization of malignancies in two periods: the year 1998 vs. 2018.we aimed to see wich changes occures in two decades. **Material and methods:** A retrospective study was done in the Departament of Pathology of the Emergency Clinical Hospital of Târgu Mureș, Romania. All malignant tumors wich were histopathologically confirmed in two years 1998,respectively 2018, were included in the database. We collected and processed the following data: patient s age,and tumor location. **Results :** There were 817 cases diagnosed in 1998 and two times more cases (n=1691) diagnosed in 2018. A significant increasing number was emphasing for skin and soft tissues (56 vs. 226 cases in 2018), gynecologic organs (206 vs. 406 cases in 2018), gastro-entero-hepato-pancreatic tumors (232 vs 364 cases in 2018), and urogenital organs (223 vs. 353 cases in 2018). No decrease in the number of cases in any malignancy was seen when comparison of the two periods was done. Independently by the examinde period, the highest proportion of cases were diagnosed between 41-50 years (12,65% vs 10,19% in 2018), 51-60 years (20% vs 15,78% in 2018), 61-70 years (20,39% vs 25,42% in 2018), respectively 71-80 years (12,4% vs 17,85%) **Conclusions:** Malignant tumours are still rare in people below 40, but their number was almost doubled in the lasr 20 years, especially for the tumors of the skin and soft tissues.

Keywords: malignancy, gastrointestinal, timeline evolution

COVID19 IN PEDIATRICS

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Background: COVID-19 (Corona virus disease 2019) is caused by SARS-COV-2 and is a positive single-stranded RNA virus whose name was given to it because of its crown-shaped glycoprotein. It first appeared in Wuhan city in China in 2019 and evolved over a short time to a worldwide pandemic. The virus infects mainly the respiratory and gastrointestinal tract by entering cells over the ACE2 receptor. The main symptoms are fever, dry cough, dyspnea, anosmia and ageusia. **Objective:** The main objective is to analyse how and to what degree Covid19 affects children and how likely they are to be asymptomatic. **Material and methods:** We analyzed 57 medical files of patients admitted to pediatric department of Mures County Hospital Targu Mures between 01/04/2020 and 28.02.2022 with positive RT-PCR tests, with or without symptoms. Patients were divided in 2 group: group nr 1, with 17 cases, admitted from 12/04/2020 to 30/05/2020, during the "first wave" of pandemic, when patients infected with SARS-CoV2 were treated in paediatric department, in isolation, alongside with other patients. The second group of 41 patients found positive for COVID-19 with RT-PCR, admitted from 01/06/2020 until 28.02.2022 □ when all admitted patients have been tested, but not treated if corona virus infected, as they were discharged home or transferred to Infectious Disease Hospital, according to gravity score. **Results :** From 57 patients included in our study, 33 patients experienced gastrointestinal signs and symptoms (58%), 34 children were found to exert any kind of respiratory sign (60%). Eight patients complained neither of gastrointestinal signs and symptoms, nor of

respiratory ones. Only four patients suffered from an acute respiratory insufficiency. Most of patients received only supportive care. **Conclusions:** The majority of patients showed only mild respiratory symptoms. Infection with the novel coronavirus appeas at any age in childhood. Children seem to be less afected than adults but they may have a huge contribution in spreading the virus, as they don't display severe symptoms (pre-symptomatic/ asymptomatic) and the signs and symptoms are not specific.

Keywords: Covid19, Children, Pandemic

EPIDEMIOLOGICAL AND HISTOPATHOLOGICAL ASPECTS OF MELANOCYTIC NEVI IN A COUNTY HOSPITAL

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Background: Melanocytic nevi are one of the most common lesions of the skin. They consist of benign melanocytic cellular proliferation and appear as well-defined hyperpigmented macules or papules on mucosa or on the skin surface. Although melanocytic nevi usually present benign histopathological features, there are cases in which distinguishing them from melanoma can present a challenge. **Objective:** The aim of the study was to observe and analyse some of the epidemiological and histopathological aspects of melanocytic nevi. **Material and methods:** We have done a retrospective cross-sectional, descriptive study, based on analysing the data collected from the histopathological reports of patients diagnosed with melanocytic nevi in the Pathology Department of Mures Clinical County Hospital, between January 2018 - December 2020. We have analysed: the patients' age and sex and the histopathological features including the type of nevus, size, shape, cellular atypia, the presence of a jonctional component and the presence of safe excision margins. **Results :** Out of a total of 222 lesions, 11.26%(n=25) were found in patients aged under 20, 49.54% (n=110) were ages between 20 and 40, 28.37% (n=63) were ages between 40 and 60 and 10.81% (n=24) were found in patients over the age of 60. The distribution between men and women was in favour of women: 69.81% (n=155) compared to 30.18% (n=67) found in men. A total of 55.4% (n=123) of cases were intradermic nevi, 32.88% (n=73) cases were compound nevi, 3.15% (n=7) were jonctional nevi and 5.85% (n=13) of cases were dysplastic nevi. Regarding the size of the lesion 25.22% (n=56) of lesions were under 4mm, 47.74% (n=106) were between 5-9mm and the remaining 25.67% (n=57) were nevi of 10mm or larger. Regarding shape, the most common types were nodular 40.99% (n=91), pappilomatous 22.52% (n=50) and oval shape 19.81% (n=44). 6.3% (n=14) of nevi presented mild or moderate cellular atypia and 44.14% (n=98) had a jonctional component. Regarding the safe excision margins, 85.58% (n=190) presented clear resection margins. **Conclusions:** In conclusion, by underlining the importance of studying the epidemiological and histopathological aspects usually present in melanocytic nevi, we can say that the melanocytic nevi are more commonly found in women aged between 20 and 40. They are most commonly intradermic nevi, between 5 and 9 mm, nodular or pappilomatous shaped and usually present clear excision margins and no cellular atypia.

Keywords: melanocytic nevi, pathology, histopathology, dermatopathology

TRANSMISSION ELECTRON MICROSCOPIC MAPPING OF TUBULIN POLYMERIZATION PROMOTING PROTEIN (TPPP) IN THE HUMAN OPTIC NERVE

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Background: Tubulin Polymerization Promoting Protein (TPPP) is a brain specific protein, which is mainly expressed in myelinating oligodendrocytes and it has a vital role in the differentiation of primary oligodendrocytes but is also involved in various neurodegenerative pathologies. Previous studies performed on human retina and optic nerve (Tripon et al. 2018) revealed that TPPP is present in oligodendrocyte cytoplasm and in the myelin sheet. **Objective:** This study aims the mapping of expressed Tubulin Polymerization Promoting Protein in different cell types of the optic nerve through transmission electron microscopy (TEM). **Material and methods:** The 70-90 nm human optic nerve TEM probes originated from a previous study (Tripon et al. 2018). The tissue was labelled with Novusbio NBP1-80962 (dilution 1:100) anti-TPPP primary antibody and Aurion (dilution 1:50) 6 nm gold-conjugated goat anti-rabbit secondary FAB2 IgG, followed by silver enhancement. The TEM probes were

visualized at SAPIENTIA Hungarian University of Transylvania in Targu Mures, using a JEOL JEM-100U TEM at 80kV accelerating voltage. Using a GATAN model 694 SlowScan CCD camera, 1 Mpx bright field images were captured. **Results :** We found that TPPP can be detected in oligodendrocytes, in their processes and myelin sheets, as it was shown in previous studies, but also in the retinal ganglion cells in axonal cytoplasm. TPPP is not enriched in microglial and astrocytic cytoplasm or nucleus. Some microglial endocytic vesicles containing myelin remains also contain TPPP labelling. **Conclusions:** This finding correlates with previous studies regarding TPPP localization in other parts of the central nervous system, but it also highlighted the presence of the protein in the axon of ganglion cells. Acknowledgments: Professor Haiyan Gong - Boston University, Associate Professor Maria L.A. Medalla - Boston University, Professor Imre Lengyel - Queen's University Belfast

Keywords: Tubulin Polymerization Promoting Protein (TPPP), optic nerve, ganglion cell, oligodendrocyte

THE INFLUENCE OF VACCINATION STRATEGIES OVER THE COVID-19 PANDEMIC'S EVOLUTION

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Background: COVID-19 is a disease first documented in late 2019, which spread fast and was soon declared a pandemic, in March 2020. Since then, the medical community struggled to find new ways to improve care for these patients, and to slow down the spread of SARS-CoV-2 until a vaccine was developed. When the first vaccine became available, each country adopted different strategies regarding the distribution of vaccine doses to its population. **Objective:** The aim of this study is to observe how the vaccination strategy applied by Romania influenced the number of ICU patients and the number of Covid-19 reported cases. **Material and methods:** This study is a retrospective cross-sectional, observational study, for which we collected and analyzed the official reported data of Romania regarding Covid-19 cases and vaccination strategy form 1st of January 2021 until 31 December 2021. The features taken into account were those regarding the number of new cases reported each day, the reported number of vaccinated people and the number of ICU patients reported each week. **Results :** We found that the number of COVID-19 cases registered a decrease 14 days after the beginning of the first step of the vaccination process (10 days mean value of 2960 cases), compared to prior to vaccination (10 days mean value of 4201). The number of new Covid-19 cases reported decreased further 14 days after the 2nd step of the vaccination process began: 10 days mean value of 2380 cases. Regarding the vaccination of general population (the 3rd step of the vaccination process), there was an increase in new cases reported: 10 days mean value of 5771 cases compared to 3812 cases before this step of the vaccination process began. Additionally, we found a moderate positive correlation between the number of new cases and the number of vaccinations per day ($p<0.01$, $r=0.35$), and also between the number of weekly vaccinations and the number of ICU patients ($p<0.01$, $r=0.62$). **Conclusions:** This study concluded by finding that the number of new reported Covid-19 cases, the number of vaccinations and the number of ICU patients have similar variations in value over the same period of time. This could mean that regardless of medical recommendations and vaccination strategies applied people are more likely to get vaccinated when the number of new Covid-19 cases is higher and when more patients develop severe forms of the disease.

Keywords: COVID-19, vaccine, pandemic

SAFETY PROFILE AND RESULTS OF IMMUNOTHERAPY WITH NIVOLUMAB IN PRETREATED NON-SMALL CELL LUNG CANCER (NSCLC) PATIENTS, THE ROLE OF RADIO-IMMUNOTHERAPY INTERRACTIONS

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Background: With the advent of modern immunotherapy (IO), the potential for even more immune activation by radiotherapy (RT), inducing tumor specific immunity led to the new era of immunoradiotherapy. **Objective:** To evaluate in real world, the safety profile, and the results of IO with nivolumab, a PD-1 checkpoint inhibitor, in pretreated patients (pts) with NSCLC, and to evaluate the potential of RT for even more immune activation. **Material and methods:** Pts with histopathologically confirmed NSCLC, who progressed after prior treatments, and

received nivolumab in the period of 18.09.18-04.11.21 were included. Pts who participated to clinical trials were excluded. **Results :** 38 pts with median age of 65(48-74), male/female 29/9, squamous cc/adenocarcinoma 20/18, stage I-II:3, III:20, IV:15, PS 1/2:18/20. Molecular profile has been evaluated in 29 pts. Primary treatment consisted of chemotherapy (ChT) in 37 pts, one received tyrosine-kinase inhibitor (TKI), and 25 pts received RT. Maintenance treatment was performed in 12 pts. ChT of 2nd and 3rd line was administrated in 7 pts, one received 2nd line TKI. Second line RT was performed in 7 pts with different hypofractionation protocols. Nivolumab was given in 2nd line treatment in 33 pts, in 3rd line in 3 pts, in 4th line in 2 pts with a median number of 27 (5-87) cycles. SARSCOV19 infections interrupted treatment in 6 of 8 pts. Adverse events were 12 in 11 pts, mainly grade 1-2 in 10 cases. Responses evaluated after 12 cycles of nivolumab were: 1complete response (CR), 7 partial responses (PR), for an overall response rate (ORR) of 21%, stable disease (SD) obtained in 21 pts (55%) and progressive disease in 9 pts (24%). Pts who received RT in an interval ≤ 12months had an ORR of 25%, versus 17% without RT or longer interval than 12 months (p=0,26), mPFS from the initiation of nivolumab was 27 months. **Conclusions:** Safety profile and immunoradiotherapy results with nivolumab in pretreated NSCLC are promising.

Keywords: nivolumab, pretreated NSCLC, immunoradiotherapy

BAIA MARE BETWEEN POLLUTION AND DENTAL DISEASES

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Background: Until the Revolution, Baia Mare was the second largest city in Europe in terms of pollution. Therefore this problem was one of the main issue that motivated me to study the quality of life that the inhabitants of Baia Mare have through their physical, mental and social well-being, as well as the ability to perform their usual tasks in their daily existence. Mental and oral health are among the world's leading disabilities. **Objective:** The present study aims to demonstrate that pollution has a significant psycho-social impact on people in terms of dental disease. **Material and methods:** The target group which was materialised in a sample, consisting of 100 interviewee, were from a range of 41 and 80 years, all of which in a proportion of 100% were from urban areas, more specifically Baia Mare. The research method chosen was a questionnaire with 11 questions in order to best quantify the participants' answers. The study was conducted between October 2021 and January 2022. **Results :** The majority of people (91%) considered Baia Mare to be a polluted city and 81% answered yes to the question "Does the city's pollution affect you?". The inhabitants of the city have a large number of dental diseases (89%), of which 37% believed that they had occurred due to pollution. I found that the most common dental conditions were: cavities, gingival bleeding and dental hypersensitivity. In large numbers (57%) people believed that the psychological effects of the dental problems had a great impact on their comfort (pain, anxiety and nervousness). However, they did not suffer from social dysfunction. An extremely high percentage namely 80%, were happy with the resolution of these interventions even with the implication of the costs of solving their dental problems. **Conclusions:** The responses of the participants included in the study confirmed that the pollution of the studied city has a negative impact on the health of the inhabitants. There are many aggressive pollutants in Baia Mare that are major factors in human disease: lead, cadmium, arsenic, copper, zinc and cyanide. Lead due to its cumulative properties is stored in the teeth and bones with a persistence of about 20 years. Dental diseases caused by lead include caries, periodontitis, enamel lesions and defects, fluorosis, Burton line and tooth loss, pathologies found in people in this study as well. There is also a positive association between depression and oral diseases, especially tooth decay and edentulous, in adults and the elderly.

Keywords: pollution, psycho-social, dental diseases

CLINICAL OUTCOME PREDICTION BY CONGENITAL HEART DISEASE PATIENTS' BLOOD BIOMARKERS: CONSIDERATION FOR PULMONARY VALVE REPLACEMENT

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Background: Using natriuretic peptides (NPs) is suggested in screening and management of children with Tetralogy of Fallot (TOF), providing non-invasive follow-up of the right ventricle (RV) function, thus preventing progression into heart failure (HF). **Objective:** The objective was to investigate the possible reference ranges applicable to clinical practice to aid in outcome prediction in TOF patients. Blood biomarkers can potentially be

used to evaluate the need and correct timing of pulmonary valve replacement (PVR), often associated with TOF. **Material and methods:** Inclusion criteria of the review consisted of all-aged patients with TOF and the usage of blood biomarkers in clinical outcome prediction. Also, indications of PVR were considered. Studies with other congenital heart diseases (CHD), usage of other biomarkers or other pathological conditions were excluded. Materials were retrieved from Google Scholar, PubMed, Web-of-Science, using keywords TOF, PVR and blood biomarkers. In total, 66 appropriate studies were retrieved, out of which 26 studies were selected. **Results :** Combination of biomarkers, echocardiographic and cardiovascular magnetic resonance imaging (CMR) parameters were in direct correlation, which was convenient in assessing pulmonary valve function and ventricular volumes. Cardiac overload, HF and ventricular dysfunction were probable in CHD adults when BNP >35 pg/mL or >45 pg/mL for decreased RV ejection fraction. BNP significantly diminished following PVR: cutoffs of 4.1412 pg/mL and 32.15 pg/mL were reoperation predictors in paediatric patients. BNP >78 pg/ml was identified as a cutoff for predicting death. Every 100 pg/mL indicated 35% increase in death risk; even ≥52 pg/mL was associated with risk increased 5-fold. NT-proBNP between 147 pg/mL and 349.5 pg/mL, was associated with adverse outcomes, whereas for asymptomatic patients the same cutoff was >300 pg/ml. NT-proBNP of 6.2 pg/mL was the optimal value for PVR. High-sensitivity cardiac troponin T increased with increasing RV volume and decreasing RV function; even minimal elevation had association with increased mortality and unfavorable prognosis. Level >14 ng/L indicated higher risk of cardiovascular events. **Conclusions:** Being validated as mortality and follow-up predictors, using NPs for monitoring children with CHD was supported, but in combination with other methods. Further research is needed to support their routine use, due to difficulties in establishing appropriate reference ranges in children, as BNP value interpretation is age- and gender-specific. PVR indications and timing remain controversial; current recommendations for the timing are mostly based on CMR studies.

Keywords: Congenital heart disease, Tetralogy of Fallot, Blood biomarkers, Pulmonary valve replacement

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ARTIFICIAL INTELLIGENCE MODEL IN DIGITAL PATHOLOGY FOR DIAGNOSIS OF BASAL CELL CARCINOMA OF THE SKIN

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Background: Artificial intelligence (AI) is a part of computer science that is capable of processing and analyzing data, simulating critical thinking comparable to human being. Deep learning models can improve many aspects of medicine, and the pathology field is no exception, this is how Computational pathology was developed. Basal cell carcinoma (BCC) is the most common skin malignant tumor type in humans. The mortality rate on BCC is not high, but if treatment is delayed or improper, this type of cancer can be highly destructive. **Objective:** The objective of our study was to build an AI model that can be easily used and implemented in the process of histopathological diagnoses of BCC, based on digital images obtained from H&E slides. **Material and methods:** Our study purpose is a Mask RCNN approach for detection of basal cell carcinoma of the skin on H&E stained slides. The RCNN model was trained with 201 histological images provided from slides which had the histopathological diagnostic of skin BCC from the Pathology Department, Mures Clinical County Hospital in order for the RCCN to learn how to identify the tumoural regions. The input files which were used for this study were images obtained with the Zeiss Axio microscope and ZenPro 3.2 image acquisition software. The AI model will analyze the image and as an output file, a .png file will be created, that annotates all the specific parts of the image that contains the tumor regions. **Results :** We found that AI models have a versatile use and can be effective on analyzes of histopathologic images. Neural network and machine learning can enhance diagnostic methods on digital pathology by assisting doctors. The results show us that there is a need for a bigger dataset to increase the precision of the AI model, but all the images analyzed, on various types of skin BCCs, especially the nodular type have shown tumor identification in 95% of the analyzed cases. Our model was design and trained based on the real histopathological diagnostic. **Conclusions:** In conclusion, an accurate diagnose is necessary for a good outcome for the patient. Recent advances made in artificial intelligence, most precisely in Deep Neural Network gives us the opportunity to create AI models which can assist doctors. In future, we want to increase the number of images used for training, expand its capabilities beyond histological feature, to morphometric analysis. and integrate the AI model into a user-friendly web application.

Keywords: Artificial Intelligence, Histopathology, Deep Learning, Image analysis

AN UPDATE ON THE EVOLUTION OF RT-QPCR TESTING FOR SARS-COV-2 DETECTION IN TÂRGU-MUREȘ COUNTY EMERGENCY CLINICAL HOSPITAL'S CENTRAL LABORATORY

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Background: It has been now more than two years since the official declaration by the World Health Organisation of the pandemic due to SARS-CoV-2 causing coronavirus disease-2019 (COVID-19) for which we continued using real-time reverse transcription polymerase chain reaction (RT-qPCR) as gold standard diagnostic. **Objective:** We provide an analysis of the RT-qPCR tests performed since 2020 in the central laboratory of Târgu-Mureș County Emergency Clinical Hospital (SCJU) in comparison to available national data. **Material and methods:** From 1st June 2020 until 31st March 2022, data has been continuously collected. The evoultion of positive RT-qPCR testing is retraced for the kinetics in a retroactive manner. The new total number of tests, monthly amount and percentage of positive tests between 11th April 2021 and 31st March 2022 were calculated and compared to the Romanian national level. **Results :** In total, 56029 SARS-CoV-2 RT-qPCR tests were performed. Our statistical analysis provides waves of positive tests in november 2020, march/april 2021, october/november 2021 and february 2022. A significant correlation was found between the laboratory's data and national data for the average number of tests ($r=0.63$, $p<0.0001$) and the monthly positive tests ($r=0.91$, $p<0.0001$). Focusing on age distribution, it became clear that the highest prevalence of positive tested individuals are from the age group 70-79 years (18%). The female-to-male ratio calculates to 1.17. Especially paediatric positive tests increased, 0-9 years 5.2-fold and 10-19 years 1.3-fold in the last year. **Conclusions:** The SCJU's central laboratory's data resonates significantly with the national evolvement of the COVID-19 pandemic.

Keywords: SCJU Targu-Mures, SARS-CoV-2, COVID-19 pandemic, RT-qPCR test

PERFORMANCE OF NATIONAL INFORMATION AND IMMUNIZATION PROGRAMS

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Background: 2019 was a year that went down in history with the emergence of a new virus, SARS-CoV-2, which had a major impact on the global population and the medical world. In a race against the clock, scientists have been able to develop a number of effective vaccines against the virus, and even if the evidence for the benefits of immunization is clear, the desire for vaccination is profoundly influenced by a number of factors. **Objective:** The aim of this study is to assess whether in small communities the vaccination decision is influenced by the level of education, the different gender bases or the environment of origin and what are the vulnerabilities of the national information and immunization programs. **Material and methods:** As a research method, we applied a questionnaire containing 35 questions to identify issues related to the opinion of citizens (from Victoria) on the information held on immunization and COVID-19. We obtained 402 valid questionnaires that were statistically processed using the SPSS program. The chi-square test was applied to determine the associations between the variables, with the significance threshold alpha = 0.05, p significant when $p < 0.05$. **Results :** We analyzed the extent to which respondents agree with SARS-CoV-2 vaccination based on gender, background, and level of education. The people who expressed their agreement were: 56% (n=154) females compared to 53.5% (n=68) males with an insignificant value of p of 0.829, 39.8% (n=129) in among those from rural areas compared to 59.3% (n=93) for people from urban areas with a statistically significant p of 0.029 and last but not least, 49.7% (n=91) for people without a university degree compared to 60.1% (n=131) among respondents with a university degree with a statistically significant p value of 0.043. **Conclusions:** Small communities continue to be vulnerable points in national information and immunization programs. The vaccination decision benefits people with higher education and a predisposition to acceptance and information superior to those in urban areas. No major perceptual differences between the two sexes have been identified. It is useful to identify current approaches and plans, to organize information campaigns with penetration, including in disadvantaged environments, in order to convince the citizens to understand the necessity, value and benefits of vaccination in a community.

Keywords: Vaccine hesitation, Pandemic, Covid-19, Vaccine acceptance

CLINICAL - MEDICAL

IMPLICATIONS OF LIFESTYLE FACTORS ON THE EVOLUTION OF MULTIPLE SCLEROSIS

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Background: Multiple sclerosis (MS) is a chronic, immune mediated and degenerative disease, that affects the central nervous system. The etiology is not completely elucidated, Genetic factors, geographical location, vitamin D levels and various infectious disorders are the most incriminating causes for MS predisposition. Due to a surge in cases in the past two decades, dietary habits of MS patients have been considered as a possible risk factor for MS development and evolution. **Objective:** The objective of the study was to find a correlation between nutritional and lifestyle factors and the clinical characteristics and disease evolution in a cohort of MS patients. **Material and methods:** 93 MS patients treated in the Neurology 1 Clinic of the Emergency Clinical County Hospital of Târgu Mureș were enrolled. A personalized lifestyle and nutrition questionnaire was applied. The questionnaire consisted of, demographic data, living environment, height, weight, and lifestyle patterns consisting of physical activity, type and time per day, food and sugar intake, alcohol, smoking, vitamin consumption and other supplements. The clinical data was analyzed from patient forms, consisting of onset of the disease, disease course, relapses, expanded. **Results :** The analyzed lot consisted of 35 males and 58 females, aged between 19 and 71 years old. The mean age was 44,05 years old with a SD of ± 12,01 years, the mean age of diagnosis was 29,16 ± 9,55 years. 56 of them had their treatment between 1 and 4 years after the onset of the symptoms, 16 between 4 and 7 years, 9 between 7 and 10 years, while 12 had their treatment after more than 10 years. All the patients were treated with disease modifying therapies. The mean number of relapses was 3,51 ± 3,24. After analyzing their dietary habits we found a weak (r=0,26) but statistically significant (p=0,001) correlation between the consumption of sugar and the total number of relapses, and a strong correlation between the consumption of sugar and the EDSS score (r=0,4340, p=0,0001), after applying the non-parametric Spearmann test. A strong correlation between the EDSS score and the total number of relapses (r=0,4203, p= <0,0001) was noted. **Conclusions:** High sugar consumption is associated with disease progression and inflammatory activity in MS patients.

Keywords: Multiple sclerosis, Sugar consumption, Lifestyle, Nutrition

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THE ROLE OF ECHOCARDIOGRAPHIC EVALUATION OF PULMONARY HYPERTENSION ASSOCIATED WITH VALVULAR LESIONS OF THE LEFT HEART

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Background: Echocardiography was originally used for the diagnosis of the left heart valvular lesions. Undiagnosed and untreated valvulopathies can be the cause of many complications that reduce the quality of life and even cause death. For example, pulmonary hypertension is most commonly caused by valvulopathies of the left heart and the echocardiography is able to detect this complication. **Objective:** The aim of this study was to highlight certain predictors of short-term mortality that echocardiography may show in patients with mitral or aortic lesions. **Material and methods:** The study included patients admitted to the "Cardiology I- Adults" section, within the "Institute of Cardiovascular Diseases and Transplantation" from Târgu-Mureș. Only the patients with medium or high-grade pulmonary hypertension in the context of a mitral or aortic valve injury were selected. We analyzed the mortality rate at 6 months, 1, 2 and 3 years, making associations with changes in cardiac function and structure that were highlighted in echocardiographic reports. The ultrasound model used was "General electric vivid s5". **Results :** 200 persons were included in this study. 10 out of 18 (55,56%) patients who died after 1 year and 21 out of 40 (52,5%) patients who died after 3 years presented severe pulmonary hypertension. The number of people who died of dilated cardiomyopathy was also statistically significant in each group. The highest value was after 6 months, when 5 out of 9 (55,56%) patients who died presented this complication. The patients diagnosed during the pandemic had a 1-year death rate higher than those diagnosed before. None of the patients who died at 6 months were diagnosed during the pandemic. On the other hand, 5 out of 18 (27,78%) patients who died after 1 year were diagnosed during the pandemic. 25 out of 40 (62,5%) patients who died after 3 years had no indication for valve replacement. In addition, the highest percentage of patients who died but had a surgical indication was at 6 months, when 3 out of 9 (33,33%) people could have been operated. **Conclusions:** Considering the importance of the pathological elements identified in the echocardiographic reports and the way they influenced the mortality

rate of the patients followed in this study, we can confirm the importance of this investigation in terms of patient management. The risk of mortality for patients with valvular lesions and pulmonary hypertension is higher compared to those who have not developed this complication. This is why these patients should be monitored using echocardiography.

Keywords: echocardiography, valvular lesions, pulmonary hypertension

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INFLAMMATORY BOWEL DISEASE AND CLOSTRIDIUM DIFFICILE INFECTION – A REVIEW OF LITERATURE

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Background: Patients with inflammatory bowel disease (IBD), due to the decreased intestinal microbial diversity and an inadequate immune response, are at increased risk of developing Clostridium difficile infection (CDI) and are most likely to associate a bad evolution. CDI in patients with IBD is of increasing importance because the frequency with which it occurs is growing over time, but also because it seems to have a negative impact on health outcomes. **Objective:** The study aims to analyze the specific clinical presentation and therapeutic approach in a patient affected by IBD and CDI. **Material and methods:** We performed a systematic review of literature by searching Google Scholar and Pubmed databases for articles published in 2017-2022 about the current knowledge of CDI and IBD by applying the PRISMA 2020 statement guidelines. **Results :** Both toxin A and B induce damage of the intestinal mucosa and vascular changes and promote the inflammatory response of the host organism. Early therapeutic interventions are required due to the potential life-threatening complications such as an increased length of hospitalization, increased rate of colectomy and mortality. Recent studies have underlined the increased virulence due to the selection of CD strains as well as the increasing rate of recurrent infections, which make the management of CDI in IBD more challenging. Individualized therapy is therefore imposed in order to control CDI as well as IBD flare. **Conclusions:** CDI infection is frequently reported in patients with IBD and represents a major health burden with an important clinical impact on prognosis.

Keywords: Inflammatory bowel disease, Clostridium difficile infection, therapeutic intervention

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HEART FAILURE IN PATIENTS WITH AND WITHOUT TYPE 2 DIABETES

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Background: Evaluating the severity of heart failure (HF) and risk of HF mortality in patients with type 2 diabetes (T2DM) by monitoring clinical informations is important, both for preventing complications due to HF and associated comorbidities, and for timely intervention. **Objective:** The aim of the study is to comparatively assess the severity of HF in patients with and without T2DM, and their risk of mortality by using specific risk scores. **Material and methods:** We conducted a retrospective study that included 140 patients with chronic HF, of which 70 had T2DM, hospitalized at SCJU Târgu Mureș during 2019-2020. The following variables from medical and electronic records were recorded and analyzed: demographic and anthropometric data, medical history, length of hospitalisation, number of hospitalizations/1 year, blood pressure and heart rate at admission, left ventricular ejection fraction (EF), treatment, blood test values (biochemistry and blood count), NT-proBNP and glomerular filtration rate (eGFR). The risk of mortality caused by HF was estimated by using the Seattle Heart Failure Model Score. **Results :** Patients with T2DM were younger (63.39±10.32 vs 66.70±10.68 years), had higher BMI (30.43±6.58 vs 27.63±5.24 kg/m2) ($p<0.05$ for both) and triglycerides (1.40 (0.37-5.21) vs. 1.23 (0.52 vs. 3.00)mmol/L; $p=0.01$), were more likely to have ischemic heart disease (60.0% vs. 35.7%; $p=0.004$) and be treated with allopurinol ($p=0.04$). However, we did not find any statistically significant differences regarding the severity of HF (NYHA class) or the 1-,2-and 5-year mortality between patients with or without T2DM (p=NS for all). NYHA class correlated significantly with duration of hospitalization (DH) ($r=0.43$), NT-proBNP($r=0.52$), serum iron($r=-0.38$), furosemide dose($r=0.37$) ($p<0.0001$ for all), number hospitalizations/one year($r=0.30$), ejection fraction (EF) ($r=-0.31$), uric acid (UA) ($r=0.29$) ($p<0.001$ for all), hemoglobin($r=-0.24$), K($r=-0.25$) ($p<0.01$ for both), BMI($r=-0.19$), eGFR($r=-0.21$) ($p<0.05$ for both), while in subjects with T2DM with DH($r=0.45$), NT-proBNP($r=0.51$), iron($r=-0.46$), furosemide dose($r=0.53$) ($p<0.0001$ for all), number of hospitalizations/one year($r=0.30$), hemoglobin($r=-0.36$) ($p<0.01$ for both), EF($r=-0.30$), eGFR($r=-0.26$), triglycerides($r=-0.24$), lymphocytes($r=-0.24$), UA($r=0.29$) ($p<0.05$ for

all). The Seattle 1-year-mortality correlated with DH(r=0.34), NT-proBNP(r=0.47), iron(r=-0.39) (p<0.0001 for all), anemia(r=0.28; p<0.001), BMI(r=-0.26), atrial fibrilation (AF) (r=0.24), eGFR(r=-0.24) (p<0.01 for all), chronic kidney disease(r=0.20; p<0.05), for the entire group, while for T2DM patients with: severe valvular regurgitation(r=0.40), iron(r=-0.40) (p<0.001 for both), NT-proBNP(r=0.39; p=0.001), AF(r=0.32; p<0.01), anemia(r=0.30; p=0.01) and DH(r=0.28; p<0.05). **Conclusions:** There were no significant differences regarding the risk of mortality or HF severity between patients with T2DM compared to those without, but certain factors associate with their risk of HF mortality and HF severity.

Keywords: Heart failure, Mortality, Type 2 diabetes

A RETROSPECTIVE COMPARATIVE STUDY OF RISK FACTORS ON FRIALTY PATIENTS COHORT PRESENTING ATRIAL FIBRILLATION

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Background: Atrial Fibrillation is an arrhytmia, which is charactarized as an irregular and very rapid heart rhythm, that can lead to blood clots formation in atrium. This patology increases the risk of stroke, heart failure and other complications. Frailty defines a group of older people, who present a high risk of adverse outcomes as falls, disability, frequently hospital admissions and also, long-term care necessity. **Objective:** The aim of this study was to compare the effects of different parameters and risk factors on atrial fibrillation evolution in two groups of patients - pre-fragile and fragile. **Material and methods:** In this retrospective study was included a cohort of 255 patients with atrial fibrillation (197 over 60 years old and 57 under 60 years old), who were hospitalized in Targu Mures Emergency Clinical Hospital during 2019-2021. Collected data of pre-fragile and fragile patients consisted of: age, body mass index, cholesterol, creatinine, chronic smoking and cardiovascular pathology history. In addition, we tried to divied the patients in two groups and to compare the medical differences between them according to atrial fibrillation evolution. **Results :** In the group of patients over 60 years old, the rate of chronic smokers was about 56,1 % comparing with those under 60 years old- 50.9% (p value -0.488). According to cardiovascular pathology history, patients under 60 years old had a higher rate 63,2 % than the other group- 60% (p value - 0.780). The cholesterol rate was higher in patients under 60 years old- median 4.62, while in the oder group, the median was 3.78. The creatinine level was almost the same in both groups with a median of 1.01.The body mass index was about the same in both groups (median 29.5). **Conclusions:** Atrial fibrillation is highly associated with chronic smokers and cardiovascular patology history. Both pre-fragile and fragile patients groups have some risk factors, but there are not significant differences according to some relevant medical parameters. We can state that, for atrial fibrillation development, cardiovascular history and smoking are highly incriminated, regardless of the age of patients.

Keywords: Atrial Fibrillation, Frailty, Smoking, Cardiovascular History

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DEPRESSION, ANXIETY AND ASSOCIATED FACTORS IN PATIENTS WITH CHRONIC DISEASES

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Background: Depression and anxiety are frequent comorbidities in patients with chronic diseases such as type 2 diabetes mellitus (T2DM) and chronic obstructive pulmonary diseases (COPDs) and cause a decrease in the patients' functional status. **Objective:** The aim of this study was to investigate the risk of depression and anxiety in patients with two different chronic diseases and to identify the main medical and psychosocial factors associated with these comorbidities. **Material and methods:** We conducted a cross-sectional study in 200 patients with chronic diseases, 100 with T2DM and 100 with COPDs. Depression, anxiety, quality of life, social support and the risk of developing obstructive sleep apnea (OSA) were assessed by specific questionnaires (PHQ-9, GAD-7, WHOQOL, MSPSS and STOP-Bang respectively) filled out by the patients. Demographic and medical data were collected from the patients' clinic charts. Anthropometric parameters, blood pressure and arterial oxygen saturation were measured. **Results :** There were no significant differences between the two groups in term of demographic data, but patients with COPDs had longer disease duration (11.5(1.0-50.0) vs. 4.0(1.0-20.0) years; p=0.0001). The proportion of patients with depression were similar in the two groups (23% for T2DM and 24% for COPDs; p=NS),

as well as with anxiety (20% for both). We found no differences in the PHQ-9, GAD-7 or WHOQOL scores between the two groups. In both groups, depression and anxiety were highly correlated with overall quality of life (r= -0.80 and r= -0.78 for depression, r= -0.71 and r= -0.79 for anxiety, p<0.0001 for all), overall health (r= -0.79 and r= -0.77 for depression, r= -0.71 and r= -0.70 for anxiety, p<0.0001 for all) and social support received from a significant other and friends (p<0.0001 for all). In patients with T2DM, depression was correlated with body mass index (BMI) (r=0.23, p=0.01), waist and hip circumferences (p<0.05) and hypertension (r=0.33, p=0.0006), while anxiety was correlated with the risk of OSA (r=0.26, p=0.007), BMI (0.20, p=0.04) and hypertension (r=0.33, p=0.0006). In patients with COPDs, depression and anxiety were correlated with the risk of OSA (r=0.44 for depression and r=0.48 for anxiety, p<0.0001 for both) and arterial oxygen saturation (p<0.0001 for both). **Conclusions:** In patients with T2DM or COPDs, depression and anxiety are associated with poor quality of life, inadequate social support and complications like obesity, hypertension and OSA and worsen the overall outcome.

Keywords: depression, anxiety, diabetes, pulmonary disease

IMAGING EVALUATION OF THE PROSTATE - THE ROLE OF MRI IN THE DIAGNOSIS OF PROSTATE CANCER

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Background: Prostate cancer is the most common type of cancer amongst older men over the age of 65, with an increasing incidence all around the world. An early and well-done MRI investigation could prevent the necessity of surgical treatment, and improve the lifespan and thus the quality of life. This paper reviews the most commonly used MRI investigation techniques for prostate adenocarcinoma and bening prostatic hyperplasia by analyzing the relevant signal characteristics with each different method mentioned below. **Objective:** The aim of this study is to determine the diagnostic tool of MRI for prostatic adenocarcinoma and benign hyperplasia. **Material and methods:** We performed a retrospective study, including 50 patients, investigated between 01.12.2021 and 01.03.2022 at the Radiology and Imagistic Department, Targu Mures Emergency County Hospital. Demographic characteristics and imagistic features were recorded. The following MRI characteristics were taken into consideration for this study: 1) T1-weighted signal intensity; 2) T2-weighted signal intensity. 3) DWI signal intensity and 4) diffusion restriction. The patients were divided into two groups, according to their histopathological diagnosis. **Results :** The mean age of the sample was 70 years old. The majority of the patients (25; 50%) were aged between 70 and 79 years, followed by those between 60 and 69 years old (23; 46%). Out of the 50 patients included in study 30 presented with prostatic adenocarcinoma (ADKP) and 20 with benign prostatic hyperplasia (HBP) confirmed by histopathology. Among the patients with ADKP, presetend hypo signal in T1, thus helping differentiate between the 2 types of lesions in favor of HBP which presented as positive in T1 (P=0.0002, likelihood ratio positive test (LRPT)=0,2050; Likelihood ratio negative test (LRNT) =2,4762). As for DWI, a positive signal was in favor of the diagnosis of ADKP (P<0.0001; LRPT=9,667; LRNT=0,037) as for T2 a hyper signal was also indicative of ADKP (P<0.0001, LRPT=9,333; LRNT=0,0741). There was also a strong statistical result (P<0.0001, sensitivity= 0,933; specificity=1) between histopathological results for patients with HBP showing no restricted diffusion, while those with ADKP, were malignant entities presenting diffusion restriction. **Conclusions:** Diffusion-weighted imaging of prostatic lesions present themselves different for both ADKP and HBP, which helps us to perform a probable differential diagnosis between these two pathological entities. Although, a specific imaging profile does not exclude the need for a histopathological diagnosis.

Keywords: prostatic adenocarcinoma, benign prostatic hyperplasia, DWI weighted signal intensity, difusion restriction

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CHILDREN'S NUTRITION IN THE FIRST YEAR OF LIFE

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Background: Nutrition is the process and the fuel needed for the development and growth in what we call today a healthy body. The most crucial period of the children's growth begins from conception and continues until the end of the second year of life. An intense subject of public argument is if parents know the right time to start food

diversification, and the common period of introduction of solid food in the children's diet. These topics greatly influence the development and life cycle of the children. **Objective:** The aim of this study was to make a synthesis that would help us understand the biggest and the most common mistakes made by parents in diversifying children's nutrition. **Material and methods:** The necessary informations have been tested by filling an anonymous survey at national level. The test included 33 questions about parents, education, feeding methods, information regarding food diversification and solid foods introduced in the children's diet. **Results :** Across 762 participants, majority (38,6%) are aged between 25-30 years old, mostly located in urban aeras. Majority of them do not have received higher education. The study shows that 45,4% started the diversification not at the age of 6 months, but earlier or later. 19% observed food allergies after diversification began, 54,5% of the survey parents offered their childrens 3 meals and 2 snacks a day. 20,1% received information regarding infant nutrition on social media. 5% stated that cow's milk can be given earlier than 6 months of age. **Conclusions:** Because social media is easy accessible now days, we have identified cases where the nutritional information for the needs of each child is compromised, leading to various mistakes in addressing their food intakes and health. This is caused mostly due to free information which is provided online, by individuals who lack expertise in the area.

Keywords: Nutrition, Diversification, Survey, Childrens

COMMON COMPLICATIONS IN CHILDREN WITH INFLUENZA VIRUS

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Background: Influenza virus belongs to the orthomyxoviridae family, measures 80-120 nm in size, and is divided into 4 subcategories: influenza A virus (Alphainfluenzavirus), influenza B virus (Betainfluenzavirus), influenza C virus (Gammainfluenzavirus), influenza D virus (Deltainfluenzavirus). This virus is transmitted by coughing or sneezing, more precisely by liquid particles, within communities, especially among children aged between 2 and 17. The rate of complications is more frequent among children with low immunity, including pneumonia, sepsis, respiratory failure, cardiovascular and neurological complications. **Objective:** Our aim was to assess the most common complications that can occur in children with influenza virus. **Material and methods:** A retrospective descriptive study was conducted between January 2019 and March 2020, in the Pediatric Clinic I of Targu Mures on 36 pediatric patients diagnosed with influenza virus. The data were collected from the clinical charts.Inclusion criteria consisted of the presence of influenza virus, while de exclusion criteria included other types of viral infections, and patients with incomplete data.We analyzed demographic, clinical, paraclinical and therapeutic parameters. **Results :** The age of the children included in our study ranged between 0-11 years, with a predominance of rural area, and 67.7% were diagnosed with influenza A, while 32.3% had influenza B, based on a rapid antigen test, and . Among all 36 patients, 63.9% associated at least one complication. The most frequent complication in our study was represented by febrile seizures p=0.043. Thus, in influenza A subtype, 80% of patients had febrile seizures, while in influenza B subtype, this complication occurred in 20% of the children. The children with febrile seizures were aged between 3 and 7 years(19%), and most of them were vaginally born(80%). Other complications were represented by: congestive otitis media (2.8%), pneumonia (2.8%), tracheitis (2.8), gastroenterocolitis (2.8) and dehydration (25%). **Conclusions:** Influenza virus subtype A was most frequently encountered in our pediatric group. The most frequent complication encountered in children with influenza, especially subtype A, was represented by febrile seizures. Vaginal birth might represent a risk factor for febrile seizures in children with influenza virus.

Keywords: influenza, febrile seizure, children

DIABETIC KETOACIDOSIS IN CHILDREN: DEMOGRAPHIC AND CLINICO-BIOCHEMICAL PROFILE

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Background: Type 1 diabetes mellitus, also known as juvenile diabetes, is the most common endocrine disorder in children and young adults. Being a long-term condition, it can present multiple acute and chronic complications. One of the most common and life-threatening complication is diabetic ketoacidosis (DKA).The definition of DKA

includes the biochemical triad: hyperglycemia, ketosis and acidosis. **Objective:** The main purpose is to identify associations of demographic(age, gender, hospitalization period, living environment), clinical (signs, symptoms, associated diseases) and biochemical variables (glycemia, hemoglobin, arterial blood gases and other biochemical results) in patients with inaugural DKA in comparasion with patients who had recurrent DKA. **Material and methods:** This retrospective study included pediatric patients (aged 0-18 years) who were admitted in the Pediatric Clinic I from the Emergency County Hospital of Târgu Mureș between 2019-2021 with diabetic ketoacidosis associated T1DM(type 1 diabetes mellitus). Fifty-four children were presented with 67 episodes of DKA: 42 of episodes were in new-onset diabetes patients and 25 episodes were in previously established diabetes patients. For the study, the necessary data were collected from the medical records. **Results :** There were significant differences studying the mean age of children with recurrent DKA in comparasion to children with inaugural DKA (14.28 years versus 8.76 years, p = 0.001). A protective factor in the occurrence of inaugural ketoacidosis is female gender. (p=0.001,OR = 0.059). Regarding the clinical manifestations, the polyuro-polydipsic syndrome was significant more frequent in children with inaugural DKA (p<0.001, OR= 70.67) followed by the presence of weight loss (p= p=0.001, OR=31.16). In children with recurrent DKA, nausea and vomiting were significantly more frequent (p< 0.001, OR = 24.42), followed by the presence of abdominal pain (p = 0.001, OR = 19.05).There was no significant difference between blood glucose levels and ketoacidosis type , but higher glycated hemoglobin values were found in children with inaugural DKA (p=0.001, U =781.5). **Conclusions:** Inaugural ketoacidosis was more commonly found among young and male patients. While the main signs and symptoms of inaugural ketoacidosis were polyuria, polydipsia and weight loss, the recurrent ketoacidosis was more frecvently manifested by nausea, vomiting and abdominal pain. Newly diagnosticated patients had more severe forms of diabetic ketoacidosis, and consequently signs and symptoms should be recognized for a timely diagnosis.

Keywords: diabetic ketoacidosis, type 1 diabetes, pediatrics

PRESENCE OF TUBULIN POLYMERIZATION PROMOTING PROTEIN IN THE GANGLION CELLS OF THE HUMAN RETINA

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Background: Tubulin Polymerization Promoting Protein (TPPP) is primarily expressed in myelinating oligodendrocytes of the central nervous system (CNS). It is crucial in the differentiation of primary oligodendrocytes as well as the dynamics of microtubules and their polymerization and stabilization. In a previous study by Tripon et al., TPPP was identified in the inner retina, as follows: no protein expression in bipolar cells, TPPP presence in amacrine cells and inconclusive results regarding ganglion cells. **Objective:** This paper aims to investigate the presence of TPPP in the retinal ganglion cells of human eyes through immunogold labelling and transmission electron microscopy (TEM). **Material and methods:** TEM probes containing immunogold labelled human retina for TPPP were imaged at SAPIENTIA Hungarian University of Transylvania in Targu Mures. Photomicrographs were obtained by operating a JEOL JEM-100U TEM at 80kV accelerating voltage at various magnifications and capturing the resulting bright field image with a 1Mpx GATAN model 694 SlowScan CCD camera. The TEM probes originated from a previous study (Tripon et al., 2018) where retina was labelled with the polyclonal anti-TPPP primary antibody from Novusbio (dilution 1:100) and the 6 nm gold-conjugated goat anti-rabbit secondary FAB2 IgG from Aurion (dilution 1:50). **Results :** The presence of TPPP was identified in the nucleus and cytoplasm of ganglion cells as well as neuronal arborisations including synaptic boutons in the inner plexiform layer of the retina and in the retinal nerve fibre layer. **Conclusions:** TPPP is present within the retinal ganglion cells. Further research should be conducted exploring the role of TPPP, a microtubule stabilizer, in the organization of synaptic connections for visual integration of perceived information in the CNS. Acknowledgments: Professor Haiyan Gong Boston University, Associate Professor Maria L.A. Medalla Boston University, Professor Imre Lengyel Queen's University Belfast

Keywords: Tubulin Polymerization Promoting Protein, Retina, Ganglion Cell, Ophthalmology

TIPS AND TRICKS IN PEDIATRIC GASTRO-ESOPHAGEAL REFLUX

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Background: The gastroesophageal reflux (GER) is a frequent condition that occurs in pediatric population and a proper characterization of its presentation and its specific features is mandatory. **Objective:** This study aims to assess the clinical presentation of children with gastroesophageal reflux, to evaluate the usefulness of paraclinical investigations and to highlight the main therapeutics approaches. **Material and methods:** We retrospectively investigated the medical records of pediatric patients who were admitted in Târgu-Mureș County Hospital betwen 2015-2021. Thus, we included in the study 100 patients, aged between 0 and 18 years, with positive diagnosis of GER and also with digestive accusations. The exclusion criteria included patients with physiological GER and with comorbidites that may influence this condition. We analyzed the demographic parameters, the medical history, the clinical presentation, some paraclinical investigations (complete blood count, ionogram, renal and liver function, inflammatory markers and imagistic investigations), the complications and treatment of these cases. The variables were compared with the Student t test and the Chi-square test, all statistical tests are 2-tailed and with a P value < 0,05 considered statistically significant. **Results :** Most of the patients were less than 6 months (p=0,02) and the main symptoms included: vomiting (40.3%), heartburn (5.6%), regurgitation (5.2%), coughing (12.1%), and apnea (6.5%). The paraclinical findings had no statistical significance (t-test t>0,05), but we noticed a decrease in hemoglobin (12.13 ± 1.87 g/dl), hematocrit (34.74 ± 5.5%), erythrocytes (4.09 ± 0.64*10^3/µl), as well, an increase in erythrocyte sedimentation rate (9.8 ± 8.33 mm/h), aspartate aminotransferase (35.61 ± 16.33 U/L), and gamma glutamyl transferase (39.43 ± 35.79 U/L). The most used imagistic tool was abdominal ultrasound (75% of patients), which revealed gastroesophageal reflux in 36% of cases (p=0,29). Complications were found in 29% of patients (p=0,02), the most frequent being apnea (35.2%), food aspiration syndrome (17.6%), but also acute dehydration syndrome (32.3%). Therapeutic management included: dietary approach (74%), as well as pharmacological treatment: proton pump inhibitors (67%), anti-emetics (53%), or probiotics (17%). **Conclusions:** Infants are more likely to develop gastroesophageal reflux, which is characterized by both digestive and respiratory symptoms, as well as complications within the same spectrum. Anemia, a mild inflammatory syndrome and a cholestatic syndrome may be associated with this condition in children. Abdominal ultrasound seems to be the most useful imagistic tool and the choice treatment combines dietary and pharmacological measures.

Keywords: pediatric gastroesophageal reflux,, clinical presentation,, investigations,, treatment

THE COURSE OF COMPLEX CONGENITAL HEART DEFECTS IN NEWBORNS DURING COVID-19 PANDEMIC

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Background: Congenital heart disease is a significant problem worldwide especially in neonates. Early diagnosis and prompt interventions in neonatal period prevents the mortality associated with this disease. The pandemic of COVID-19 presents an unprecedented challenge to identify effective prevention and treatment and put the Romanian health system to the test. **Objective:** The objective of this study was to highlight the incidence and severity of neonatal congenital heart defects in the context of COVID-19 pandemic. Also, we aimed to minimize significant morbidity and mortality associated with this disorder by identifying the problems that lead to the delay of the diagnosis and implicitly of the surgical intervention. **Material and methods:** This study was conducted at the Emergency Institute for Cardiovascular and Transplant Diseases of Târgu Mureș, Pediatric Cardiology, from March 2019 to February 2021. Approval of ethical committee was obtained. All neonates (1-28 days old) of either gender who presented in the department of pediatric cardiology including those delivered in hospital or received from other sources (territorial hospital), diagnosed as having complex congenital heart disease on echocardiography were included in the study. **Results :** A total of 44 neonates divided into 2 study groups were included in the study. There was a male preponderance with 16 (67%) male patients in first group and 12 (60%) male patients in second group as compared to 8 (33%) female patients in first group and 8 (30%) female patients in second group. Transposition of great arteries was the commonest cardiac lesion being present in both groups 11 (45.8%) cases in first group and 8 (40%) in the other one, followed by aortic coarctation 7 (29.2) in first group and 5 (25%) in

second group. The average age of patients at the time of surgery was 21 days (median 14±15.85 SD) before the COVID-19 pandemic and 17 days (median 15±10.05 SD) in the first year of the pandemic (p=0.54). In this study, we found out that one-year survival rate was very subtle modified in the first group (71%) compared to the second one (70%). **Conclusions:** Early diagnosis, surgical and interventional procedures were maintained in favor of patients with severe congenital heart malformation, with significant clinical and hemodynamic repercussions or due to the risk of imminent clinical deterioration, damage caused by delayed treatment exceeding the risk of COVID-19.

Keywords: COVID-19, complex congenital heart disease, neonate

LIFESTYLE FACTORS AND THEIR IMPACT ON THE RISK OF GASTRIC AND COLORECTAL POLYPS

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Background: Multiple studies suggest that lifestyle factors play a major role in development of gastric and colorectal polyps. **Objective:** The aim of this study is to establish correlations between lifestyle factors such as alcohol consumption, vegetable consumption, regular use of NSAIDs, diabetes mellitus, obesity and the sex of the patient with the type of gastric and intestinal polyps. **Material and methods:** We performed a prospective study on 77 patients hospitalized in the gastroenterology department of the county hospital of Tg Mures diagnosed with gastric and intestinal polyps through digestive endoscopy. Surveys were completed to obtain information on usual dietary intake and other lifestyle factors and we compared to histopathological results of biopsies performed after digestive endoscopy. **Results :** In our database we included 77 patients with polyps, from witch 60% (n=40) with adenomatous intestinal polyps with low-grade dysplasia, 21% (n=14) with hyperplastic intestinal polyps, 10% (n=7) with gastric polyps, 6% (n=4) with adenomatous intestinal polyps with high-grade dysplasia and just 3% (n=2) with esofagian polyps. 32,5% of these patients have a personal pathological history of intestinal polyps (n=25). Among the risk factors mentioned before, we noticed that of the patients with a personal history of intestinal polyps, 64% consume alcohol (p=0,035). Of those with hyperplastic intestinal polyps, 67.9% do not eat vegetables (p=0,014), and 21% have grade 2 obesity (p=0,044). Also, the patients with hyperplastic intestinal polyps, 66.7% regularly consume NSAIDs (p=0,001). Of the patients with adenomatous intestinal polyps with low-grade dysplasia, we found that 69.8% are male (p=0,044) and 28.3% have diabetes mellitus (p=0,050). **Conclusions:** In our study we found that there is a significant correlation between male sex and adenomatous intestinal polyps with low-grade dysplasia. We also found a correlation between obesity and hyperplastic intestinal polyps, but not as significant as the other associations. Furthermore, our study shows that there is a positive association between regular NSAID use and the appearance of intestinal hyperplastic polyps and an association between diabetes and adenomatous polyps.

Keywords: adenomatous intestinal polyps, hyperplastic intestinal polyps, lifestyle factors

NEUROLOGICAL IMPLICATIONS OF COVID-19

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Background: Neurological deficits are considered the main extra-pulmonary symptoms in SARS-CoV-2 infection, being associated with increased morbidity and mortality rates. **Objective:** The aim of this study was to define neurological manifestations associated with SARS-COV-2 infection and to investigate whether COVID-19 could influence the severity of the disease in patients with acute stroke. **Material and methods:** In this retrospective study, we characterised the neurological phenotype of 34 patients with positive PCR-based SARS-CoV-2 testing, admitted to the Neurology Department between 1st of April 2020 - 1st of April 2021. In order to determine whether SARS-COV-2 infection could have an impact among subjects with acute stroke, 114 patients with negative PCR-based SARS-CoV-2 testing admitted with acute stroke during the aforementioned period were also included. Two samples of subjects with acute stroke were obtained (COVID-19 vs non-COVID-19) and data analysis was performed to identify the statistical differences between patient groups (clinical profile, demographical characteristics, comorbidities, NIHSS score and laboratory findings at hospital admission). **Results :** Neurological manifestations in COVID-19 patients included acute ischemic stroke (76%), intracerebral hemorrhage (6%), epilepsy with focal sensory seizures (3%), acute transverse myelitis (3%), persistent headache (3%), Myasthenia

Gravis (3%), critical illness polyneuropathy (3%) and Guillain □□□□□□ syndrome (3%). Among patients with acute stroke, COVID-19 subjects were significantly older (78.5, IQR 72.5-81 vs 72, IQR 65.75-79.25, p = .01), with an increased prevalence of atrial fibrillation (53.8% vs 12.6%, p < .001), a higher Neutrophil to Lymphocyte Ratio (11.65, IQR 7.018-15.76 vs 4.036, IQR 2.64-6.11, p <.001), a higher NIHSS score (11, IQR 6-15 vs 8, IQR 4-12, p = .048) and an increased in-hospital fatality rate (50% vs 16.7% , p = .001). The chronological relationship between the onset of COVID-19 symptoms and the occurrence of neurological manifestations was 5 days in Guillain □□□□□□ syndrome and 14 days in acute transverse myelitis. **Conclusions:** COVID-19 associated a wide range of neurological manifestations, affecting both the peripheral and central nervous system. Acute ischemic stroke was the most frequent manifestation among COVID-19 patients, being accompanied by a significantly higher prevalence of atrial fibrillation, in contrast to non-COVID-19 patients. Additionally, COVID-19 was associated with significantly higher systemic inflammation and stress levels (Neutrophil to Lymphocyte Ratio), more severe neurological deficits (NIH Stroke Scale) and a higher in-hospital fatality rate, leading to an increase in the severity of the disease among patients with acute stroke. GuillainBarré syndrome and acute transverse myelitis occurred as para-/postinfectious complications of COVID-19.

Keywords: COVID-19,, neurological manifestations,, ischemic stroke,, Guillain–Barré syndrome

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TELEMEDICINE AND FAMILY DOCTOR

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Background: Telemedicine and telepresence are a necessary and inevitable way that helps to monitor the condition of patients, diagnose diseases, and prescribe and adjust treatments as needed; moreover, telemedicine and teleconsultation were the tools, especially during the pandemic period. **Objective:** The goal was to get a realistic picture of the role and importance of telemedicine among Transylvanian family doctors. **Material and methods:** In a cross-sectional study realized between February and March 2022, we summarized the results of a telemedicine questionnaire sent to almost 1400 family physicians, which was completed by 131 respondents practicing in the Central Region of Romania. **Results :** The most commonly used telecommunications device was the phone, based on the questionnaire results. Regarding the application were phone applications, such as WhatsApp and Messenger, and applications used to monitor biological parameters. Most of the interviewed physicians utilized the devices for less than 25% of their work schedule, mainly to solve medical and administrative problems related to patients and the office. Additionally, they were available to their patients out of work time and willing to advise on weekends and holidays; 80.90% of doctors mentioned that personal interaction with patients is essential. Almost the same percentage revealed it sharing and saving documentation due to technological advances. 76.30% of respondents declared that managed by teleconsultation minor cardiac illness, and 70.20% pediatric, 67.90% used for diagnosing diseases, initiating and adjusting treatment. **Conclusions:** The study confirmed that teleconsultation does not replace face-to-face consultation and clinical examination. Additionally, its role is undeniable, as telemedicine can reduce waiting times, costs, and the risk of infection, making healthcare more accessible and effective.

Keywords: telemedicine, general practice, family doctor, family medicine

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INCIDENCE OF PULMONARY THROMBOEMBOLISM IN PATIENTS WITH COVID-19 ADMITTED IN A TERTIARY CENTER OF CARDIOLOGY

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Background: The novel coronavirus disease (COVID-19) causes severe acute respiratory distress, dysfunctional immune response associated with hypercoagulation state. **Objective:** The aim of this study is to evaluate the incidence and outcomes related pulmonary thrombembolism related to COVID-19 pneumonia in patients admitted in Cardiology Clinic of Emergency County Hospital in Targu Mures. **Material and methods:** A retrospective cohort study was conducted to evaluate a total of 90 hospitalized patients with COVID-19 pneumonia in the Cardiology Clinic and Coronary Care Unit (CCU) of Emergency County Hospital in Targu Mures from 2019 to 2021. **Results :** Between 2019 and 2021, 3629 emergency admission were retrospectively analyzed, out of which 2.587 (71.2%) were acute coronary syndromes. Pulmonary embolism was recorded in only 3% of cases (n=111). An increase

number of admissions was recorded in 2021 compared to 2020 (1328 vs 866), with a peak number of admissions in the third trimester of 2021 (n=379). For Pulmonary embolism, the number of admissions was two-fold higher in 2021 compared to 2020 (51 vs 22 admissions). From the total admissions, 90 patients (8.58%) had COVID-19 pneumonia confirmed by real-time PCR (mean age 67+/-10.3 years, and 59.0% males). Pulmonary embolism detected by chest CT angiography was present in 22 patients with COVID-19 compared to 89 patients without COVID-19 (24.4% vs 25%, p<0.0001). **Conclusions:** Pulmonary embolism is significantly more frequent in patients with COVID-19 compared to the general population admitted in a tertiary clinic of cardiology in emergency conditions.

Keywords: coronavirus disease, COVID-19 pandemic, pulmonary embolism, hypercoagulation state

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CLINICAL AND BIOLOGICAL CORRELATIONS BETWEEN ACUTE CORONARY SYNDROMES AND COVID-19 INFECTION

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Background: It is well known that COVID-19 infection is a new inflammatory condition that increases cardiovascular risk and triggers acute coronary syndromes; however, the clinical and biological correlations of the mechanism of COVID-19 infection and acute coronary syndromes (ACS) have not been elucidated so far. **Objective:** The purpose of this paper is to corelate the association between clinical and biological parameters of COVID-19 infection in patients with acute coronary syndromes. **Material and methods:** 34 patients with ACS and concomitant COVID-19 infection were included in this study. The COVID-19 diagnosis was based on the detection of the virus by Real Time PCR performed in the molecular laboratory from the samples collected in the Emergency Unit. Depending on the type of acute coronary syndrome (high sensitive troponin, the appearance of electrocardiogram and clinical manifestations) the study population was divided into two groups: group 1 26 patients with ST-elevation myocardial infarction (STEMI) and group 2 8 patients with non-ST myocardial infarction (NSTEMI). For all patients clinical status was assessed at baseline and in order to quantify the magnitude of the disease myocardial and liver enzymes, lipid profile, renal function and hemogram were assessed. **Results :** The mean age of the study population was 63,06 +/- 11,73 years, mostly females with an average body mass index of 28,97 +/- 6 kg/m2. In patients with STEMI and COVID-19 infection leukocytosis was more pronounced (p=0.03) and the liver dysfunction more severe [expressed by Aspartate and Alanine transaminase (p=0.0002 and p=0.005)]. No significant differences between the two groups regarding myocardial enzymes, renal function and lipidic profile was observed; however, multivessel disease was more frequent present in group 2 and a longer length of stay in the intensive coronary care unit was required. **Conclusions:** Patients with COVID-19 infection and concomitant STEMI present a more expressed inflammatory status with associated hepatic dysfunction, while in patients with NSTEMI the coronary heart disease is more severe (multivessel disease) requiring a longer hospitalization and worsen outcomes.

Keywords: COVID-19, Acute coronary syndromes, Myocardial infarction, Inflammatory

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THE IMPACT OF RAPID ANTIGEN DETECTION TESTS ON THE FLOW OF PATIENTS INFECTED WITH SARS-COV-2 IN THE EMERGENCY DEPARTMENT OF THE TARGU-MURES EMERGENCY COUNTY HOSPITAL

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Background: The coronavirus disease (COVID-19) is a highly contagious infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus was identified for the first time in China in December 2019 and has rapidly disseminated worldwide as a global pandemic. The disease can lead to pneumonia, acute respiratory distress syndrome (ARDS) and multi organ dysfunction. The golden diagnostic method is testing a nasopharyngeal swab for SARS-CoV-2 nucleic acid in real-time PCR. However, rapid antigen detection tests (RDTs) were widely used to diagnose the infection. **Objective:** The aim of this study is to show the impact of RDTs on the flow of patients with COVID-19 in the Emergency Department of the Targu-Mures Emergency County Hospital. **Material and methods:** Clinical data were collected from the medical records of 453

patients that were evaluated in the Emergency Department of the Targu-Mures Emergency County Hospital between the 1st of November and the 31st of December 2020. These patients were tested both with RDTs and RT-PCR tests. **Results :** The results revealed that from the total of 453 PCR positive patients, 322 had positive and 131 had negative RDTs. The medium time of stay in the Emergency Department was four hours for the patients with positive RDTs and six hours for those with negative tests. The difference between the values of median time of stay in the Emergency Department calculated for the two categories of patients using the Mann Whitney test was statistically significant (p = 0,0010). **Conclusions:** The use of RT-PCR to confirm infection in patients showing signs and symptoms associated with Covid-19 was supplemented with the rapid antigen detection tests. This measure had a remarkable positive impact on the patients' flow by reducing the medium time of stay in the Emergency Department.

Keywords: COVID-19, rapid antigen detection test, Emergency Department

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PATIENTS TREATED FOR SYSTEMIC LUPUS ERYTHEMATOSUS: AN OVERVIEW

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease, characterized by the production of autoantibodies directed directly against nuclear and cytoplasmic antigens, causing multisystemic inflammation. Treatment in SLE depends on the affected organ and systems, as well as the degree of damage. **Objective:** The aim of this study was to evaluate clinical and serological patients with SLE, who was in treatment for the disease. **Material and methods:** I performed a retrospective observational study on 47 patients diagnosed with SLE according to EULAR/ ACR criteria. I evaluated the clinical manifestations, the serological changes and the type of treatment. **Results :** Out of the group of 47 patients, 46 are women and one man, with an average age of 54 years and an average duration of the disease of 12,14 years. 20 patients are on monotherapy and the rest of 27 are on combination therapy. Of these, 54% are receiving chronic treatment with Hydroxychloroquine, 29% with Prednisone, 9% with Methotrexate and 5% with Imuran. Of the clinical manifestations, joint damage is the most common, 45 patients, followed by skin damage, 20 patients, renal and neurological, each with 8 affected patients, and cardiovascular manifestations have 6 patients. In serology we identified that 37% of patients had an increased titer of anti-nuclear antibodies, 27% anti-dDNA antibodies, 16% anti-ACA antibodies, 10% anti-SSa antibodies, 5% anti-SSb and 5% anti-Sm /Rnp. **Conclusions:** Hydroxychloroquine treatment is most commonly used in both monotherapy and combination therapy, but requires an ophthalmologic evaluation at 3-6 months. Treatment within SLE aims to reduce systemic inflammation, prevent relapses and obtain periods of resignation as long as possible.

Keywords: autoantibodies, systemic inflammation, EULAR/ ACR criteria

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ASSESSMENT OF ITCHING INTENSITY IN WOMEN WITH INTRAHEPATIC CHOLESTASIS OF PREGNANCY

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[1]Another University

Background: Intrahepatic cholestasis of pregnancy (ICP) is a liver disease characterized by pruritus in the presence of increased levels of liver function tests and bile acids (BA). ICP complicates 0.5-1% of all pregnancies. **Objective:** To assess the intensity of itching in women whose pregnancy has been complicated by ICP. **Material and methods:** The prospective study was conducted by assessing 68 cases of ICP. Women were asked to describe the intensity of itching at the beginning of the symptoms, at the time of the survey, and on the 3rd day after delivery, according to two scales. Thus, in the study, the scale proposed by the author Ribalta (Ribalta-score), which uses a score from 0 to 4 (dependent on the continuity of pruritus throughout the day), was used. Additionally, an analog visual scale with a score range of 0 to 10 was created for the study. **Results :** In the current study the level of bile acids varied widely, from 10 up to 211 µmol/l, with an average level of 35.6±4.64 µmol/l. Therefore, mild ICP (BA values 10 - 40 µmol/l) was found in 47/68 (69.1%) cases, moderate ICP (BA values 40-100 µmol/l) 16/68 (23.5%) cases, severe ICP (BA values Conclusions: Pruritus is the main clinical symptom of ICP, and it is exactly what causes women to seek additional medical consultation during pregnancy. Therefore, it should not be ignored, even if it is of low intensity and decreases in post-partum. The symptom should be interpreted as an indication for follow-up.

Keywords: intrahepatic cholestasis of pregnancy, ICP, pregnancy, pruritus

THE ROLE OF CHRONIC PROTON PUMP INHIBITORS IN GASTRIC CANCER: AN OBSERVATIONAL STUDY

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Background: Gastric cancer is one of the first fifths most common types of cancer worldwide. Because of its late diagnosis, it has a reserved prognosis and an increased incidence of mortality. The most important risk factor for gastric cancer known to be H. pylori infection. **Objective:** The aim of this study is to demonstrate the occurrence of gastric cancer following the chronic use of proton pump inhibitors as a risk factor. **Material and methods:** We conducted a retrospective study in which we analysed the cases of gastric cancer from the Gastroenterology Department of the Municipal Hospital Tîrgu Mureș for a period of 5 years from 2017 to 2021. We entered patient data into the database, and for statistical processing we used the SPSS program with a 95% confidence interval and a p index value <0.05 can be statistically significant. **Results :** My study included a total of 59 patients with gastric cancer of whom 29 patients (49.15%) were treated with proton pump inhibitors, and 30 patients (50.85) did not follow this treatment. Analyzing the collected data, we found a higher incidence in male patients who took proton pump inhibitors (27.10%) as opposed to female (22.0%). Depending on the location of the tumor, we have an increased frequency in the gastric body (34%), followed by antral (31%) and cardiac (15%) placement. Comparing the group of patients who took proton pump inhibitors and gastric cancer at the pathological examination, we did not find any statistically significant result (infiltrative tumor formation, p =0.61; vegetativ tumor formation, p=0.731; stenotic tumor formation, p=1.0).Following the correlation between proton pump inhibitors and biochemical parameters, we didn't obtain a statistically significant results. Regarding the average age of patients taking proton pump inhibitors, this is higher (76.66%) than those who not taking this treatment (70.93%).Statistically insignificant results were obtained from the association between the risk factor and the manifestations of cancer (abdominal pain with p = 0.37, weight loss with p = 0.15, loss of appetite = 0.266). **Conclusions:** As a result for this study, we did not find a strong relationship between chronic treatment with proton pump inhibitors and gastric cancer.

Keywords: Gastric cancer, Proton pump inhibitors, Risk, Pathological examination

EVALUATION OF THE NUTRITIONAL ERRORS IN INFANT'S FEEDING: FOCUS ON FOOD ALLERGIES AND INTOLERANCES

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Background: Understanding the role and importance of nutrition in early postnatal life is fundamental. The infant's nutrition, then that of childhood, has a direct impact on the growth, development and health of the future adult. Eating disorders are an increasingly common source of malnutrition in young children, although we often see a discrepancy between eating disorders, obesity and malnutrition. **Objective:** The aim of this study is to evaluate the eating behaviors of a group of infants, to study and to estimate the frequency of subsequent complications. **Material and methods:** I performed a cross-sectional study using a questionnaire consisting of 44 questions, answered by 275 parents. The target group consisted of infants in their first 12 months. The questions referred to the information like infants feeding practices, consumption of food groups, the presence of food allergy or intolerance. **Results :** Breastfeeding was common during the first 6 months (57.5%) and as expected, breastfeeding decreased over time as infants grew. Feeding frecquency and dietary diversity changed with growth; therefore, by introducing only one new food per day starting with the initiation of diversification, it covers all food groups in about 2 months. Of the total number of infants included in the study, 84.7% had food allergies or intolerances and the highest frequency was at 12 months old infants, especially in infants who began the diversification at 6 months (25.65%). In 71.3% of the infants, were observed physical manifestations that could be related to food, such as skin rash, constipation or abdominal pain. **Conclusions:** There was not significant association between the age of initiation of diversification and the presence of food allergies or intolerances. The suggestion is to evaluate the effects of child feeding practice on child growth for a longer time.

Keywords: infant nutrition, breastfeeding, feeding frecquency, food allergy and intolerance

KNOWLEDGE OF RISK FACTORS IN MALIGNANT MELANOMA

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Background: Melanoma is a highly aggressive tumour with an early metastatic potential that occurs as a result of uncontrolled proliferation of melanocytes. In most cases it presents as a primary neoplasm of the skin, but in a smaller percentage it also occurs in other organs and tissues. It is multifactorial in origin, occurring as a result of the interaction between genetic susceptibility and environmental exposure. Risk factors fall into two main groups: extrinsic factors (exposure to solar radiation, local trauma to a nevus, use of tanning salons, ultraviolet phototherapy) and intrinsic factors (individual features, personal and hereditary history positive for melanoma). **Objective:** The main aim is to identify the correlation between the reported level of knowledge and the prevalence of responses given in relation to risk factors predisposing to melanoma. **Material and methods:** A prospective study was carried out, involving 519 participants, with data collected via an online questionnaire consisting of 25 questions. The survey was based on the inclusion criteria of the Romanian population of all ages, both male and female. **Results :** The answers obtained showed that 89.2% of the respondents were informed about external factors and 95.5% of those who said they were informed. In the case of genetic factors, 65.5% chose them, compared to 83.3% of those who considered themselves very well informed. Another risk factor included, were individual traits in 25% of cases, being chosen by 46.7% of the very well informed. The last factor included was weakened immune system in 25.5%. **Conclusions:** Summarizing, on the basis of the data obtained, it can be seen that the majority of people who declare themselves informed on the subject consider external environmental factors and genetic factors as the main factors involved in the onset of the disease.

Keywords: melanoma, risk factors, informed

HAS THE ETIOLOGY OF PEDIATRIC TRAUMA CHANGED DUE TO COVID-19? A COMPARISON DESCRIPTIVE RETROSPECTIVE STUDY

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Background: Due to the COVID-19 pandemic, on March 16, 2020, state of emergency was instated in Romania. As a result, there were several public restrictions, including national lockdown, in order to prevent the hospitals from overcrowding. On May 14, 2020, the state of emergency was replaced with the state of alert and several public restrictions were lifted. **Objective:** The aim of this paper is to study the differences of the trauma etiologies of the cases who presented to the Emergency Room of the Pediatric Emergency Hospital in Cluj Napoca between the period of the state of emergency (March 16 to May 14) in 2020 and the same period of 2021 **Material and methods:** A descriptive retrospective study was conceived in which all the cases were distributed to a certain etiology and to one of the 4 age groups. We focused on comparing not only the trauma etiology, but also factors as the sex, clinical status when presenting to the emergency department, number of cases per day in each timeframe etc. The frequency of the main trauma etiologies was established and then compared from one period to the other. Due to the descriptive nature of the study, no other objective statistics were made. **Results :** There were 1468 cases during state of emergency (407 of which having a traumatic etiology, accounting for 27.58% of the total cases) and 2775 cases during the same period of the state of alert in 2021 (567 of which having a traumatic etiology, accounting for 20.4% of the total cases). However, the frequency of the main trauma etiologies remained the same. Moreover, there almost identical patterns in male versus female patients frequencies, numbers of tick bites, calls to the public emergency number etc. **Conclusions:** Although there were significantly more pediatric trauma cases in 2021, the etiologies of the traumatic events did not change in a significant manner or percentage. This is important to know for all the pediatric physicians in the events of other public restrictions due to other highly contagious COVID waves or other viruses.

Keywords: covid, trauma, state of emergency

CORRELATIONS BETWEEN INFARCT SIZE, INFLAMMATION AND HEART FAILURE IN PATIENTS WITH ACUTE MYOCARDAL INFARCTION

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Background: Infarct size after an acute myocardial infarction (AMI) prove to be an essential factor for the development of left ventricular failure. The role of inflammatory status in the first days after an AMI in the process of heart failure (HF) development in acute phase of an AMI remains to be established. **Objective:** We aim to identify the correlations between the infarct size as expressed by hscTnI, inflammation evaluated by hsCRP and the development of HF after an AMI. **Material and methods:** The study included 50 patients admitted for diagnosis of AMI, presented in timeframe and revascularized. The patients were divided in 4 groups depending on the number of identified coronary lesions as follows: Group 1 no. coronary lesions (n = 6 patients), Group 2 one coronary lesion (n = 23 patients), Group 3 two coronary lesions (n = 16 patients), and Group 4 3 or more coronary lesions (n = 4 patients). Infarct size was evaluated by the hscTnI levels at hospital admission, inflammatory status was determined in day 3 after AMI and NTproBNP was evaluated in day 5 as a marker of HF development. **Results :** A good correlation was identified between NTproBNP and hsCRP levels (R2= 0.1298, p= 0.01) in study group. An even stronger correlation was obtained for NTproBNP and hsCRP levels in patients with multiple coronary lesions, two or more (R2= 0.3751, p= 0.006). No correlation was obtained between NTproBNP and hscTnI levels (R2= 0.0706, p= 0.85). **Conclusions:** In patients with AMI revascularized in timeframe, the remaining inflammation proved to be even more important than the infarct size in the determinism of HF.

Keywords: acute myocardial infarction, inflammation, heart failure

THE STUDY ON THE IMPACT OF SARS-COV-2 VIRAL INFECTION AMONG THE YOUNG POPULATION

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Background: The COVID 19 infection is caused by the SARS-CoV-2 virus and it consists of a respiratory syndrome that manifests mainly through respiratory symptoms. Patients infected with the virus are considered to be the main source of infection, but potential sources could also be the ones who are asymptomatic/in the incubation period. The gold standard for setting the diagnosis is the RT-PCR testing performed from samples collected from the nasopharyngeal level. The virus can be transmitted through direct and indirect contact and Flügge droplets. This study wants to examine how the COVID 19 infection affects the young population regarding their symptoms and the vaccine efficacy. **Objective:** The aim of this study is to evaluate the frequency of certain symptoms caused by this disease among the young population and if certain factors such as sex, place of origin, allergies, smoking, BMI and vaccination can be considered protection factors or not in the fight against SARS-CoV-2. **Material and methods:** This prospective, longitudinal, cohort study investigates the data gathered from 485 people - including both exposed and not exposed ones to this virus (383 female - 78,97%, 102 male - 21.03%) all aged between 18 and 30 years old. The data was collected via a questionnaire that includes the variables previously mentioned, together with the incidence of certain symptoms (ageusia, anosmia, decreased smell, taste and oxygen levels, fever and cough) that occurred at those who ended up developing the disease. **Results :** Based on the correlation of the variables mentioned above, I have obtained statistically significant results regarding the vaccine against SARS-CoV-2 ($p<0.0001$, RR=0.6596), meanwhile there was no statistically significant results in the allergies (p=0.5470, RR=1.065), smoking (p=0.6483, RR=0.9586), BMI (p=0.4929, RR=0.9236), place of origin (p=0.3464, RR=0.9104) and sex (p=0.0802, RR=1.216). A Chi-square test was used with a 95% CI (confidence interval) and a relative risk Koopman asymptotic score was the chosen method in order to compute CIs. **Conclusions:** The study concluded by finding a strong correlation between the occurrence of COVID 19 and the vaccine, proving us the efficacy of vaccination and placing it in the position of a protective factor against this disease. Other factors such as the BMI, the smoking and the allergies were also expected to be correlated with the severity of the disease, but the young age of those included in this study could be a possible explanation for this phenomenon.

Keywords: SARS-CoV-2, COVID 19, young age, vaccine

CLINICAL AND ENDOSCOPIC ASPECTS IN PACIENTS WITH LIVER CIRRHOSIS

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Background: Liver cirrhosis is an end-stage disease, due to various type of chronic liver injury, being the 13th cause of death worldwide. One of the most challenging complication of cirrhosis is portal hypertension followed by the development of esophageal varices, requiring upper digestive endoscopy(UDE) surveillance. Clinical manifestations of cirrhosis in early stages are non specific and can be confused with those of others digestive disorders. **Objective:** The aim of this study is to correlate gastrointestinal symptoms with eso-gastro-dodenal changes/lesions/findings in patients with cirrhosis undergoing UDE. **Material and methods:** We included in this study 102 patients with an UDE evaluation and splited them in two groups: 34 patients with liver cirrhosis with different etiology, and 68 patients without liver disease. **Results :** Male patients were more frequent in the study group (64.7%) in comparison with patients without cirrhosis (41.2%) evaluated on endoscopy. Patients are aged between 25 and 86 years, with a mean age of 60.80 ± 13.40 years. In the study group, the mean age was 64.35 ± 9.93, while in the control group the mean age was 59 ± 14.58. Esophageal varices were found in 10 patients (29.4%) with liver cirrhosis. In patients with cirrhosis there was a statistically significant negative association with heartburn (p = 0.009, OR: 0.161, 95% CI: 0.035-0.740), while the loss of appetite (p=0.029, OR: 3.877, 95 % IC: 1.159-12.967) was the single symptom positive correlated with cirrhosis. There were no statistically significant differences regarding abdominal flatulence (p=0.628, OR: 1.272, 95% CI: 0.490-3.300), early satiety (p = 1.0, OR: 0.663, 95% CI: 0.577-0.762), epigastric pain (p = 0.286, OR: 0.571, 95% CI: 0.241-1.352), nausea/vomiting (p=0.49, OR: 0.221, 95%CI: 0.047-1.029) or weight loss (p= 0.528, OR:1.502, 95% CI:0.439-5.139) between the two groups. In cirrhotic patients evaluated on endoscopy, gastric corpus erythema was significant more frequent than in patients without cirrhosis (p=0.003 ,OR:4.579, 95%CI: 1.765-11.878), but the white spots into duodenal mucosa (p= 0.037, OR: 0.316, 95% the CI:0.108-0.923) were significant less frequent than in patients without cirrhosis. **Conclusions:** This study revealed that loss of appetite may be a predictor for cirrhosis, while heartburn seems to be negative associated with cirrhosis in patients reffered for UDE. Gastric corpus erythema occurs more frequent in patients with cirrhosis, while duodenal white spots in non-cirrhotic patients investigated on UDE.

Keywords: Liver cirrhosis, heartburn, corpus gastric erythema, endoscopy

THE ADDICTION OF SOCIAL MEDIA THROUGH GENERATION Z, X AND Y

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Background: Living in an era of a unanimous high media presence, with a tendency to move rapidly to the next big piece of tehnology or feature, is something that the human brain had never experienced before. Although this is the case, the link between social media and addiction is not as represented as it should be in the literature. **Objective:** The aim was searching for the criteria of addiction in three generation groups regarding phone and social media use; moreover looking up to see if a more semnificative level of addiction is linked with an earlier exposure to the technologies: like in the group of people called Generation Z. **Material and methods:** This study included a number of 826 subjects who voluntarily participated by completing a 37 question questionnaire divided in 4 parts. The answers was given in the first part about general informations like age, gender, etc., the second one had covered the platforms that the subject is using, the third and the forth part are an evaluation of the addictions and fear of missing out based on criteria found in the DSM-V. In order to cover a diverse population, the extreme age of subjects completing the query was 11 and 76, both female and male, from rural and urban environment. **Results :** From the applying of statistical test, we discover that we have a semnificativ association between the generation and addiction as followed: from all subjects with addiction presented, 52.90% are part of Generation Z, 28.77% Generation Y, and the rest are part of Generation X, p=0.0075. That shows a crescent tendency of addiction with the younger generations. The test also showed a semnificativ association between the generation and fear of missing out, p<0.0001. The defining feature is that the fear of missing out is not linked with the

addiction of social media. **Conclusions:** The study shows that the younger the subjects are exposed to social media, the more semnificativ will be the level of addiction and the level of fear of missing out, although the two of them are not linked by one another.

Keywords: addiction, social media, fear of missing out, generation

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FEBRILE SEIZURES IN CHILDREN

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Background: Febrile seizures are the most frequent benign neurological disturbances in infants and children aged 6 months to 6 years due to fever in children without underlying brain pathology. Three criteria are essential in defining a febrile seizure: age, fever, and seizure. **Objective:** Our study aimed to determine the incidence, clinical features, and management of children with febrile seizures admitted to Pediatric Mures County Hospital in 5 years. **Material and methods:** We retrospectively analyzed all infants and children diagnosed with febrile seizures between 01.01.2017 and 31.12.2021 by examining the medical records. From a total of 72 reports, 40 cases of documented febrile seizures were included in this study. The sex ratio was M:F=1,5:1. **Results :** There were 82,5% cases presented as a first manifestation and 17,5% with a history of a previous febrile seizure episode. 39 from 40 cases developed febrile seizures in the out-of-hospital setting, being a relatively frequent call to the ambulance service. An isolated episode of generalized tonic-clonic seizure, seizure lasting less than 15 minutes, and fever (mean=38,6° C body temperature) were present in almost all cases. Symptomatology, physical examination, and laboratory findings such as WBC and CRP were used to help identify the source of the fever (usually an upper respiratory tract infection). In 20% of cases, intrarectal Diazepam was prescribed but rarely used, as the febrile seizure is usually a unique and self-limited event. **Conclusions:** This study emphasizes the importance of correctly diagnosing febrile seizures since this condition affects infants and children worldwide. Reducing parents' anxiety due to lack of comprehension and fear caused by their inability to provide adequate support during the seizure episode is one of the most important principles of treatment.

Keywords: Febrile seizures, Fever, Children

IS THERE A ROLE BETWEEN THE USE OF PROBIOTICS AND THE EVOLUTION IN PATIETS WITH IBD?

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Background: Inflammatory bowel diseases are a group of autoimmune diseases associated with the digestive tract that involve inflammation of various segments causing abdominal pain, weight loss, diarrhea, etc. In addition to local symptoms there are systemic manifestations such as ocular inflammation, arthritis and other skin conditions. For the diagnosis there are a whole set of clinical criteria and endoscopic findings that make the difference between these two diseases. This is extremely useful for the clinician when a treatment is to be issued. **Objective:** The aim of this study was to demonstrate the suitability of probiotic treatment associated with medication for inflammatory bowel diseases and its effectiveness on long-term modulation of the inflammatory response. That is made by analyzing the severity of symptoms, the number of readmissions and the spread of lesion in patients with Crohn disease of ulcerative colitis **Material and methods:** This retrospective study was conducted by analyzing the discharge files of patients with Crohn's disease and ulcerative colitis hospitalized between 10.11.2016- 10.11.2021 in the Department of Gastroenterology within the County Clinical Hospital Targu Mures. The parameters followed were demographics, symptoms at first hospitalization, severity, number of hospitalizations, specific complications, diagnostic test results and the use of probiotics alongside with medication. **Results :** : Among the data collected from the group of 176 patients, the efficacy of probiotics in adjuvant therapy was observed in the 63 patients with Crohn's disease. Patients who had included a probiotic in their treatment had fewer readmissions (p=0.006) and had a lower percentage of emergency admissions (p=0.042) than patients who did not have. Alas there could be found no link between the severity and the probiotic treatment in these patients (p=0.22). Of the 113 patients with ulcerative colitis, it can be seen that there is also an increased number of people who were admitted for health check-up (p=0.0001) compared to patients who were brought to the emergency room and had a higher number and there could also be seen the statistically low readmissions (p=0.01). In these cases,

the relationship between the extension of the lesions and the adjuvant treatment could not be observed (p=0.78) nor in the patients who presented in the emergency regime (p=0.57). **Conclusions:** The data obtained from the study showed that with probiotic therapy, positive results were acquired regarding the number of readmissions and a decrease in emergency admissions, but no difference could be observed on the severity and extent of the lesions.

Keywords: inflammatory disease, gastrointestinal disorders, probiotics

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THE IMPACT OF CAFFEINE ON STUDENT LIFE

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Background: Currently, caffeine is the most popular substance used by students to eliminate chronic fatigue. It creates a good feeling, produces energy and reduces anxiety. **Objective:** Between February - March 2022, a prospective epidemiological study was performed interviewing 62 students in Romania, with the purpose of discovering: how caffeine affects the nervous system, what is the relationship between caffeine and stress, why students smoke when they drink coffee, why do they need caffeine as a main factor for producing energy, if caffeine really helps to improve attention, how much caffeine can a student consume. The questionnaire was anonymous and had 19 mixed grid and descriptive questions. The data obtained was processed on the Survio platform, after which the analysis and interpretation of the results was done using Microsoft Excel, through the Epiinfo7 program. **Material and methods: Results :** Of the 62 students, 87.1% were young and 12.9% were middle-aged and belonged to the age groups of adulthood and the elderly. 83.9% of students were female, and 16.1% were male. All the participants in this study were exposed to the same chaotic life in which 90.3% chose caffeine as the primary factor for producing energy, and 9.7% chose to not consume caffeine. During exams, 79% of students consume caffeine due to its effects on stimulating the nervous system, the brain and improve attention. 80.6% of the students confirmed that they drink coffee because it stimulates the brain to release dopamine, 12.9% because for its effects in reducing fatigue and stress, and 6.5% because they are used with it. Most of the students say that they needed caffeine because they are tired and stressed and because without it, they have headaches. 24.2% of the students consume 2 cups of coffee per day because caffeine offers a limited amount of energy for a limited period of time. Due to the fact that their organism has adapted to caffeine, 11.3% of students need to consume 3 or more cups of coffee to sustain a moderate quantity of energy throughout the day. The rest of 64.5% consume regularly 1 cup per day of coffee from which they get the energy they need for the whole day. 25.8% of students smoke while drinking coffee because the contents of tobacco and caffeine significantly reduce anxiety. **Conclusions:** The present study reveals how caffeine has a positive impact in student's lives.

Keywords: caffeine,, student,, fatigue

PEDIATRIC STONE DISEASE

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Background: Urolithiasis in children is a disease caused by the interaction between environmental and hereditary factors. The nutrition factor is essential in adults, but in children more important is the presence of tubulopathies, hereditary metabolic diseases, urinary tract infections or congenital malformations of the urinary tract. In recent decades, the incidence of urinary stones in children is increasing, including in Western countries. **Objective:** We aimed to identify clinical and biological features in patients with urolithiasis hospitalized in the Pediatric Department of the Mureș County Clinical Hospital during 2015-2019. **Material and methods:** This is a retrospective study included 79 patients. Statistical analysis was performed in SPSS 26.0 with statistical significance $p<0.05$. **Results :** In the study were included 32 boys (41%) and 47 girls (59%). We obtained a significant correlation between the birth weight in SD and age with p=0.04 and coefficient Pearson r=-0.29. The highest incidence of stones was in adolescents (73%), followed by middle childhood (22%) and then early childhood (5%). No cases of urolithiasis were identified in newborns, infants and toddlers age groups. Significant association was found between inflammatory markers CRP and ESR with p=0.0001 and Spearman coefficient rs=0.48; which can be explained by presence of urinary tract infection (20.25%). On renal ultrasound: 80% had kidney stones, 26.56% uretheral stones, 2.53% bladder stones, without urethral stones; 53% of children presented a complication of nephrolithiasis

such as hydronephrosis. We obtained a significant association between presence of renal stones and hydronephrosis (OR=3.47, CI 95 % 1.30-9.24, p=0.01). Another significant association was between uretheral stones and hydronephrosis (OR= 3.93 CI 95% 1.27-12.18, p=0.01). **Conclusions:** The incidence of urinary tract stones increases with age in children and the gold standard in diagnosis remains abdominal ultrasound. Upper urinary tract stones have an increased risk of developing hydronephrosis.

Keywords: urolithiasis, children, renal ecography, hydronephrosis

CORRELATIONS BETWEEN CLINICAL AND HISTOPATHOLOGICAL FEATURES IN SINONASAL TUMORS

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Background: Nasal cavity cancers are uncommon, accounting for about 1% of all tumors. The sinus and skull base regions are the origins to a diverse spectrum of cancers; the majority of these tumors are weak or undifferentiated, with overlapping features that make diagnosis difficult. **Objective:** Nasal and sinus cancers are unusual benign tumors that can become malignant in roughly 10% of cases. The goal of this study was to look at the clinical and pathological features of sinus neoplasia. **Material and methods:** The Otolaryngology Department of the Country Clinical Hospital in Targu Mures treated 60 newly diagnosed and treated patients with nasal or paranasal sinus tumors in 2020 and 2021. The demographic and clinical characteristics of the participants were recorded. Patients of all ages and genders are among them. To validate the CT diagnosis, a histopathological study was required. **Results :** A total of 60 sinus tumors occurred, of which 46 were benign. Of these, 42 (70%) were male, with a sex ratio (M:F) of 2.3:1. In Targu Mures, the prevalence of sinonasal neoplasia was 0.6 % in 2020 and 2021. The majority of benign cases, with a mean age of 60 years, were found in the >50 age group, and most malignant cases were found in the >50 age group as well , with a mean age of 62 years (p=0.0031). Squamous cell carcinoma was the most common histological subtype, observed in 64.2% of patients. 29 patients were found to have inflammatory polyps. The study showed a 99.7% correlation between clinical and histopathological diagnoses. The most common symptom of patients was nasal congestion (77.55%), and it usually appeared within 6 months of the onset of the condition. Other symptoms include facial pain, diplopia, epistaxis, proptosis, and periorbital swelling. Occupational risk factors (toxic emissions) were found in 19 patients (31.6%), p=0,012 and a confidence interval (IC=95%). **Conclusions:** Nasal cavity and paranasal sinus tumors are rare, with the most common cause being occupational exposure to certain carcinogens. To provide the best therapy and the best patient survival, proper tumor diagnosis and histologic examination are critical.

Keywords: histologic examination, tumors, benign, diagnosis

MYASTHENIA GRAVIS: THE ROLE OF INTERCURRENT INFECTIONS IN ACUTE CRISIS AND EXACERBATION SETTINGS

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Background: Literature determines intercurrent infection to be an important critical cause for the occurrence of acute MG crises. However, the question about the prevalence of certain kinds of infections and the expanse of its significance persists. **Objective:** The study points out the symbiotic correlation between comorbid infections and myasthenic symptomatology affecting the evolution of acute MG crises. **Material and methods:** A clinical retrospective study on 21 Myasthenia Gravis patients admitted to the Neurology I ward of the Emergency County Hospital of Tirgu Mures, Romania, between 2015 and 2022. Reports and discharge letters documenting every hospitalization due to acute crises have been manually selected and included. Statistical analysis and testing was conducted using the software R-Studio, Version 2022.02.0 Build 443 for Macintosh. **Results :** Simultaneous comorbid infections comprising upper respiratory tract infections, pneumonias or urinary tract infections were identified in 53% of all crises (pneumonia 39%; URTI 29%; UTI 32%). A linear regression calculating the correlation between dyspnea as an acute MG symptom and mandatory oxygen therapy or respiratory support (MV + OTT) during myasthenic crisis proves statistical significance (multiple R^2 = .269, adjusted R^2 = .25, p = <.001). The correlation between comorbid infection and mandatory respiratory support during crisis is also significant (Chi^2 = 10.852; p = <.001). The presence of an intercurrent comorbid infection is amplifying the correlation between

dyspnea and respiratory support during MG exacerbation (p = <.001; multiple R^2 = .571; adjusted R^2 = .536). In this model, there is an independence between dyspnea and comorbid infection (t = 1.68, p = .102). **Conclusions:** The role of intercurrent infections, such as upper and lower respiratory infection, during or introducing myasthenic crises is significant for its aggravating evolution until the point of essential respiratory support. The correlation makes it important to consider and diagnose coexistent infections of various etiologies precociously and treat them accordingly with safe medication in future clinical practice. It is especially important to look out for patients with an acute onset of dyspnea due to their combined aggravating effect during crises.

Keywords: Myasthenia Gravis, infection, dyspnea, respiratory support

DEVELOPMENT OF ANTI-SSTR CAR T CELLS FOR THE TREATMENT OF NEUROENDOCRINE TUMORS

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Background: CAR-T cells are a novel form of therapy used in oncology and onco-hematology. In order to assess safety and efficacy, in-vivo experiments on mice can be conducted. **Objective:** This experiment aims to analyze the anti-tumor effect of anti-SSTR CAR T cells in murine models inoculated with BON1 or CM neuroendocrine tumor cells. The results are compared to groups treated with un-transduced (UT) T cells and saline solution (PBS). **Material and methods:** In order to conduct the experiment, 66 NSG female mice, 4 to 6 weeks old, were used. To have a NET model, BON1 and CM neuroendocrine tumor cell lines were chosen. The mice were randomized into two groups, one that was injected with a mixture of Luciferase + (Luc +) CM tumor cells, the other group received Luciferase + (Luc +) BON1 tumor cells. When tumors became palpable, after approximately two weeks, the mice were randomized again to receive either 7 x 10 6 anti-SSTR CAR T cells, 7 x 10 6 UT (un-transduced) T cells or PBS (Phosphate-Buffered Saline), via tail vein injection. After receiving the treatment, the mice were given intraperitoneal injections of recombinant human IL-2 (Miltenyi Biotec), at 220,000 IU in 500 µL PBS. Tumor growth was assessed weekly by an observer that was blinded to the treatment given. The measurements were done by in vivo Bioluminescence Imaging using IVIS Lumina SIII (Perkin Elmer). The rate of tumor growth was quantified looking at the total photon flux at each time-point and comparing it to baseline levels. All mice were euthanized 28 days after treatment; the tumors, spleen, pancreas and brain were harvested. **Results :** Mice receiving anti-SSTR CAR T cells showed a significant decrease of tumor growth when compared to the mice treated with PBS or UT T cells ($p < 0.05$) when analyzed with in vivo Bioluminescence Imaging (BLI). The difference between the groups has become especially evident 14 days from treatment in the CM group, and 21 days after in BON 1. Weight loss and abnormal behaviors were not observed in the mice during the study. **Conclusions:** Anti-SSTR CAR T cell therapy proves to be effective in reducing tumor growth in vivo using murine models, without significant side effects being observed. Further research is needed before use in humans.

Keywords: CAR T cells, Neuroendocrine Tumors, Adoptive T Cell Transfer, Immunotherapy

CORRELATIONS BETWEEN LEFT VENTRICULAR EJECTION FRACTION AND MYOCARDIAL INJURY EXTENSION IN PATIENTS WITH ACUTE CORONARY SYNDROME

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Background: During an acute coronary syndrome (ACS) high-sensitive troponin (hs-cTnI) is known to be a marker of the myocardial injury extension. However, the further correlation with left ventricular ejection fraction (LVEF) impairment is yet to be determined. **Objective:** To evaluate the level of high-sensitive troponin as a marker of further impairment of left ventricular performance, evaluated by left ventricular ejection fraction, in patient with acute coronary syndrome. **Material and methods:** The study enrolled 110 patients admitted with acute coronary syndrome. Patients were divided in two groups based on the level of left ventricular ejection fraction at 6 days after admission: Group 1 - 53 patients with LVEF < 40% and Group 2 - 67 patients with LVEF >/= 40%. Myocardial injury extension was quantified based on the level of high-sensitive troponin at hospital admission. **Results :** Patients with impaired LVEF showed higher levels of hs-cTnI as compared to subject in which LVEF remained preserved after an ACS (Group 2 1067 ng/dl vs. Group 1 532 ng/dl, p = 0.04). Moreover, the extension of

myocardial injury after an ACS showed to present a good correlation with further LVEF of patient, as hs-cTnI proved to present a good correlation with LVEF (r = -0.2846, p = 0.01). **Conclusions:** Myocardial injury extension during an acute coronary syndrome as expressed by high-sensitive troponin could predict further impairment of left ventricular performance.

Keywords: acute coronary syndrome, high-sensitive troponin, left ventricular ejection fraction, myocardial injury

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COMPLICATIONS IN DIVERTICULAR DISEASE

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Background: Colonic diverticulosis is one of the most common findings in routine colonoscopy. Divertcula are protrusions of the mucosa and submucosa trough the defects in the muscle layer of the intestinal wall. Diverticular disease represents the appearance of a clinically significant complication and can range in severity from symptomatic uncomplicated diverticular disease (SUDD) to symptomatic disease with complication such as diverticulitis, diverticular hemorrhage or worse, including abscess, perforation and peritonitis. **Objective:** The purpose of this study is to assesse the link between risk factors and the complications of diverticular disease. **Material and methods:** We conducted a retrospective study at the Gastroenterology department of the Emergency County Hospital of Târgu Mureș were we included 55 patients diagnosed with complicated diverticular disease. Patients were divided in two groups with diverticulitis (n=29) and diverticular hemorrhage (n=26) and we described for each one the comorbidities (high blood pressure, ischemic cardiomyopathy, history of stroke) and others parameters including CBC, ESR (erythrocyte sedimentation rate), glucose and albumin levels. **Results :** The study group was composed of 31 females (n=15 with diverticulosis and n=16 with diverticular hemorrhage) and 24 males (n=14 with diverticulitis and n=10 with diverticular hemorrhage). The average age for patients with diverticular disease was 67.7±19.33 and 77.38±8.9 for patients with diverticular hemorrhage therefore the average age for patients with diverticulitis was significantly smaller (p=0.039) than the group with diverticular hemorrhage. The average neutrophil/lymphocyte ratio (NLR) for the group with diverticulitis was 7.36±6.82 and 4.88±2.19 for the group with diverticular hemorrhage but there is no statistical difference between the two groups (p=0,7939). **Conclusions:** This study concludes that mean age for diverticular hemorrhage is grater than the mean age of patients with diverticulitis. Unfortunately there was no difference between groups for parameters such as NLR, PLR (platelet-lymphocyte ratio), glucose or albumin levels. Further studies with a large number of patients are needed.

Keywords: diverticulitis, diverticular hemorrhage, neutrophil-lymphocyte ratio, platelet-lymphocyte ratio

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NEUTROPHIL-LYMPHOCYTE RATIO IN ULCERATIVE COLITIS

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Background: Ulcerative colitis is a part of inflammatory bowel disease together with Crohn disease, both with unknown etiology. There are many activity indices of inflammatory bowel disease, either invasive such as endoscopic staging or non-invasive like faecal calprotectin, but one of the easiest way to determine if the disease is active or not is the neutrophil-lymphocyte ratio (NLR). This ratio can be easily calculated from a usual blood work. Studies so far showed that this ratio corelates with the disease activity. **Objective:** The objective of this study is to demonstrate the correlation between hematological markers and disease activity in ulcerative colitis and the possibility to use those markers, available almost everywhere and less costly, to appreciate disease severity. **Material and methods:** In this study were included 40 patients diagnosed with ulcerative colitis from Gastroenterology clinic in Targu Mures. Patients were divided in two groups, active disease (n=18) and inactive disease (n=22). Exclusion criteria was presence of another inflammation or infection at the moment of blood work. **Results :** Average age of the patients included in the study was 42.71±22.26 for active disease group and 46.54±13.29 for remission disease group but there is no statistical significance between the age of the two groups

(p=0.693). Patients with active disease had a neutrophil-lymphocyte ratio significantly higher (4.2±3.57) in comparison with inactive disease (1.77±0.94) (p<0.0001). Patients presented with active disease had lower hemoglobin (11.66±2.43 vs 13.81±1.61, p=0.0018), higher thrombocyte count (444.85±162.82 vs 268.75±41.99, p<0.0001), lower sideremy (9±6.48 vs 19.04±7.33, p=0.003) and higher ESR (38.33±22.68 vs 9.27±7.44, p<0.0001). **Conclusions:** In patients with ulcerative colitis active disease neutrophil-lymphocyte ratio was significantly higher in comparison with the ones that had inactive disease together with other hematological markers among which hemoglobin, thrombocyte count, sideremy and ESR. These indices cand be easily calculated in medical practice thus facilitating classification of the disease more rapidly and at a reduced cost corelated with clinical symptomatology.

Keywords: Inflammatory bowel disease, Ulcerative colitis, Neutrophil-lymphocyte ratio, Hematological markers

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LIPID PROFILE IN NONALCOHOLIC STEATOHEPATITIS

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Background: Non-alcoholic steatohepatitis - NASH is a chronic liver disease associated with major changes in liver's lipid metabolism that promotes an inflammatory process that leads to fibrosis, cirrhosis or even hepatocellular carcinoma. **Objective:** The aim of this study is to analyze the lipid profile of all patients diagnosed with non-alcoholic steatohepatitis. **Material and methods:** This paper is a retrospective study that was conducted by analyzing the clinical observation sheets of patients admitted to the First Medical Clinic within the Targu Mures County Emergency Clinical Hospital, between January 2017 and December 2021. **Results :** During the 5 years we registered 33 cases, approximately 80% of the patients were male and 20% female. The most frequently affected age group is between 60 and 69 years old. Based on laboratory tests, the following are highlighted: 58% of patients are obese, 27% have a hypersthenic constitution and a small number of 15% are normal weight; 80% are associated with hypertension (HTA), 55% with type II diabetes mellitus (DM II), 60% with dyslipidemia, and 33% with chronic obliterative atheropathy of the lower limbs (ACOMI). **Conclusions:** Weight gain and obesity are key risk factors for this condition. Based on the results, the existence of the interrelationship between NASH and metabolic syndrome is highlighted.

Keywords: NASH, OBESITY, DISLIPIDEMIA, HTA

ASPIRIN FOR CHEMOPREVENTION OF COLORECTAL CANCER – TIME FOR A PARADIGM SHIFT?

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Background: Colorectal cancer (CRC) represents a frequent cause of death among cancer patients with approximately 1.8 million new cases and 862,000 deaths worldwide in 2018 according to Globocan. There were a series of studies which have found a link between the regular use of aspirin and lower risk of CRC. On the other hand, various complications like gastrointestinal and intracranial bleeding can be linked with the long-term aspirin use. **Objective:** The aim of our literature review was to assess the evidence supporting the potential of aspirin to prevent CRC and to identify the target population of best benefit. **Material and methods:** Several databases (PubMed,Web of Science, and Cochrane Library) were searched to identify randomized controlled trials, meta-analysis and clinical guidelines that compared the efficacy of aspirin use to reduce CRC. **Results :** Our review was able to detect important changes in guidelines recommendations regarding the use of low dose aspirin for CRC prevention. During the last decade, because of an important body of evidence The United States Preventive Services Task Force (USPSTF) changed the 2007 recommendation against the use of aspirin to an updated recommendation for routine low dose aspirin use in the primary prevention of cardiovascular disease and CRC for individuals aged 50-59 years. Based on actual evidence, for persons outside this age interval an individual risk-benefit decision should be made in order to initiate primary prevention of CRC using aspirin. Regarding the risk-benefit ratio, we found that "a meta-analysis of 35 RCTs using 75-325 mg daily doses of aspirin alone estimated an HR for major gastrointestinal bleeding of 1.31 (95% CI 1.21-1.42)" (Lanas A, 2011). Individuals with an average risk (those who have not had a previous bleeding event and not taking anticoagulant/ antiplatelet treatment), usually have 1 or 2 gastrointestinal bleeding events/1000 person-years. Another "meta-analysis of RCTs found that

major extracranial bleeding (mainly GI) associated with aspirin occurred primarily in the short term (<3 years) following initiation of aspirin use, with likelihood increasing with age and that in the long term (> 3 years), low dose (<300 mg) aspirin use was not significantly associated with the risk of such events" (Rothwell et al., 2012). **Conclusions:** Aspirin therapy for CRC prevention should be restricted to adults for whom the protective benefits outweigh the harm and best quality evidence must be provided to identify individuals who are most likely to take advantage of a prophylactic aspirin regimen.

Keywords: Chemoprevention, Colorectal cancer, Aspirin, Meta-analysis

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DOES THE TREATMENT FOR DEVIATED NASAL SEPTUM OR SECONDARY DIAGNOSIS INFLUENCE THE DURATION OF HOSPITALIZATION?

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Background: Deviated nasal septum is a very common problem nowadays and it appears when the septum deviates from its original position, narrowing one of the nostrils. For this reason, it will causes more ENT problems over time if left untreated. In the early stages of the disease, the treatment can be just symptomatic, but in late-stage the patients' quality of life depends on surgical treatment. **Objective:** The aim of this study is to analyze if the treatment or any ENT-associated diagnosis, that developed over time, influences the hospitalization time. **Material and methods:** This study is a retrospective, observational study and it includes the data from all the patients from the ENT Department from Târgu Mureș admitted in 2020 and 2021 with deviated nasal septum. Using different criteria the sample was differentiated and a general description was obtained. The duration of hospitalization between the obtained groups was compared using appropriate statistical tests (The Mann-Whitney (U)) at alfa 0.05. **Results :** The 275 patients were divided into 3 groups: 169 patients with the hospitalization time less or equal to 3 days, 96 patients between 4 and 6 days, and 10 patients with 7 or more days. Comparison tests showed no difference based on the type of treatment used (p=0,1797) and between treated and untreated groups (p=0,545). There is also no statistical difference between patients with and without any associated ENT pathology (p=0,1281). **Conclusions:** As a result of this study the associated ENT pathologies and the surgical or pharmacological treatment do not appear to influence negatively or positively the hospital time.

Keywords: deviated nasal septum, ENT, hospitalization time

COMPARATIVE STUDY ON PHARMACOLOGICAL FIBRINOLYTIC AND ENDOVASCULAR INTERVENTIONAL TREATMENT IN ACUTE ISCHEMIC STROKE

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Background: Stroke is an acute neurological deficit caused by ischemia in the cerebral circulation. The efficacy and safety of thrombolysis (rtPA) compared to endovascular treatment (EVT) and combination therapy (EVT and rtPA) have not been shown to be superior, respectively between EVT and the other two types of treatment, as well as between combination treatment with EVT and rtPA. Taking into account the fact that time is brain, the faster the treatment is administered, the greater its effectiveness, and the favorable outcome. **Objective:** Our aim was to evaluate the efficacy of thrombolytic treatment compared to endovascular alone or endovascular alone with the combined one on the clinical results of endovascular treatment versus thrombolysis alone in patients with ischemic stroke **Material and methods:** We prospectively analyzed data from 35 subjects who had acute ischemic stroke who underwent one of the treatments of choice in case of presentation in the therapeutic window, over a period of 5 months (October 2021 - 2022) out of a total of 258 patients. From the patient's discharge sheets we recorded National Institutes of Health Stroke Scale (NIHSS) on admission and discharge, modified rankin scale (mRS) on discharge, treatment method, the time from the onset of symptoms to the start of treatment. **Results :** The average time to presentation in the emergency department was 110 minutes, respectively the average time from the onset of symptoms to thrombolytic treatment was 147.94 minutes, and the average time from the onset of symptoms to endovascular treatment was 358.22 minutes. 18/35 (51,4%) patients had an mRS score between 0 and 2, and 17/35 (48,6%) had a score between 3 and 6. There was no statistically significant difference between groups treatment and mRS scores (as demonstrated by Chi-square test = .305, df=2, p = .859), There was no statistically significant difference between groups treatment and NIHSS scores at discharge as demonstrated by

one-way ANOVA (F (2.32) = 1.26 , p = .295). A post hoc Tukey test showed that the clinical evolution based on the NIHSS discharge score was not significantly lower when comparing thrombolytic and endovascular treatment types (p = .344), respectively between endovascular and combination treatment (p = .803), as well as and between thrombolytic and combined (p = .633). **Conclusions:** The ANOVA and Chi-square results suggest that there is no significant difference between the study groups in terms of clinical evolution (mRS, outpatient NIHSS) and treatment, respectively between the study groups, demographics and risk factors.

Keywords: stroke outcome, NIHHS treatment outcome comparison, mRS treatment outcome, treatment stroke comparison

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A SURVEY-BASED ANALYSIS OF PATIENTS' MOTIVATIONS FOR DERMATOLOGICAL CONSULTS

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Background: Dermatology is a visually oriented medical discipline. Many skin conditions are associated with a favorable prognosis, but, at the same time, the high morbidity should not be underrated. The daily activities of the patients and their integration into society and work can be affected by dermatological diseases. **Objective:** The proposed research aims to benefit the approach to dermatological disease by identifying the main motivations of patients when choosing to go to a dermatologist. **Material and methods:** This cross-sectional study was performed on a sample of 551 people, 501 recruited online and 50 from the Dermatovenerology Clinic of Mureș Clinical County Hospital. Participants were requested to complete a questionnaire consisting of 26 questions, that assessed general data of patients (sex, background, education level), the population's approach to dermatological conditions, skin lesions, and the symptoms most frequently encountered in daily activity, as well as the reasons for postponing the dermatological consult. The data presented below is based on online-applied questionnaires. **Results :** Most patients were women (81%) and came from urban areas (66.5%). The level of education of the volunteers was university studies (47.5%). 79.2% of the responders considered that dermatological conditions required specialized treatment, and the most common lesions were skin rashes (58.1%), followed by suspicious moles (50.7%). Pruritus was selected by 58.9% of the volunteers as the symptom that prompted them to see a dermatologist. In terms of the causes for postponing dermatological consultation, 46.1% considered that the condition was not life-threatening. **Conclusions:** A specialized dermatological consultation is crucial for various skin conditions, but it is usually postponed when the first signs and symptoms appear.

Keywords: dermatology, high morbidity, dermatological consultation

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ASPECTS OF PSYCHOSOCIAL IMPACT OF ACNE

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Background: Acne is an inflammatory cutaneous disease that is mostly the result of the obstruction and/or inflammation of the pilosebaceous unit due to excessive sebum and dead cells that accumulate on the surface of the skin, therefore blocking the pores. The consequences of these processes consist of anesthetic cutaneous lesions which have a strong psychological and social impact on the quality of life of those affected. Acne is frequently associated with stress, anxiety, depression, and low self-esteem. **Objective:** The study aims to emphasize the severity of acne's impact on social life and mental health among the students from the Universities of Medicine and Pharmacy in Romania. **Material and methods:** In order to perform the study, we created and distributed an online questionnaire through social media as a basis for the study. We managed to collect answers regarding the acne's influence on social life and mental health of students of different ages with a specific grade of acne severity. Therefore, 166 subjects were enrolled in the statistical data analysis, using the Chi-Square test. The significance threshold chosen was alpha=0.05, and p was considered statistically significant when p <= alpha. **Results :** Responses from 166 people were analyzed and the results showed that students suffering from acne for more than 10 years (22,2%) didn't manage to find a partner (p=0,047), while more than a third from all those with severe and moderate acne avoided any interactions with their friends or colleagues (p=0,043). Moreover, feelings like shame and embarrassment were mostly found in people with moderate acne (51,7%), subsequently being

followed by 40% with severe acne and 24,2% with a mild grade (p=0,012). Furthermore, the most emotionally affected were women (65,1%). They presented a lack of self-trust, inferiority, and insecurity due to their acne, compared to men involved in the study (p=0,010). **Conclusions:** Acne has a significant effect on the quality of life and this fact has to be taken into consideration by every dermatologist when treating an acne patient. They should conduct psychological evaluations of those who present with depression or anxiety and refer patients to appropriate care.

Keywords: acne, mental health, social life, students

PRIMARY PROGRESSIVE MULTIPLE SCLEROSIS: EVOLUTION AND TREATMENT

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Background: Multiple sclerosis (MS) is a chronic neurological disease with inflammatory and neurodegenerative components affecting the central nervous system. Approximately 15% of patients with MS have the Primary Progressive subtype (PPMS), characterized by continuous neurological deterioration from onset. Ocrelizumab is the first drug ever to show efficacy in slowing the disease progression in a phase 3 clinical trial with PPMS patients. **Objective:** The aim of this study was to evaluate the clinical evolution and demographic characteristics of PPMS patients. **Material and methods:** This was an observational, retrospective study performed in Neurology 1 Clinic of the Emergency Clinical County Hospital, using collected clinical records of 19 patients with PPMS that were admitted in our clinic in the last 5 years. Eight patients are actively treated with Ocrelizumab. The patients were assessed based on their demographic and clinical data. We calculated their disease severity rank based on the Expanded Disability Status Score (EDSS) progression over the time using the MS Severity Rank Calculator. The calculator indicates three disability trajectories over a period of 20 years from the onset. **Results :** A total of 19 PPMS patients with a mean age at onset of 45 years (±9.6) and a median baseline EDSS of 6 (95% CI: 3.5-8.5) were assessed. A female:male ratio of 1.3:1 were calculated. The most common presentation symptoms were pyramidal (12 of 19 patients). Median time to reach a confirmed EDSS of 4 was 5 years (95% CI: 1-12 years), a confirmed EDSS=6 was 8 years (95% CI: 1-16 years) and a confirmed EDSS=6.5 was 9 years (95% CI: 2-12 years). No statistical significance was noted in the Ocrelizumab group between the initial (pre-treatment) and actual EDSS score. **Conclusions:** Early recognition of progression is challenging and most PPMS patients will reach ambulatory dependence in less than a decade from the onset. The MS Severity Rank Calculator can indicate the trajectory of disability accumulation and provides a useful tool for assessing the disability progression of the PPMS patients.

Keywords: Primary progressive multiple sclerosis,, expanded disability status scale,, disability progression,, clinical evolution

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APOMORPHINE IN THE TREATMENT OF ADVANCED PARKINSON'S DISEASE

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Background: Parkinson's disease is a progressive, neurodegenerative disease characterised by a gradual decline in dopaminergic neurons in the substantia nigra. Usually, patients don't show specific motor signs of the disease; therefore, remain undiagnosed until the destruction of approximately sixty to seventy percent of the dopaminergic neurons has occurred. Treatment for Parkinson's disease includes medications, surgery, and supportive therapy, such as diet, exercise and occupational therapy. **Objective:** This study aims to assess the efficacy of subcutaneous apomorphine injections as rescue medication in the treatment of advanced Parkinson's disease and its impact on the patients' quality of life. **Material and methods:** The study currently involves seven patients, aged 48 to 73, diagnosed with advanced Parkinson's disease, which were admitted to our clinic (Neurologie II) in Targu Mures. After a preliminary premedication with domperidone, patients received treatment consisting of 2 to 7mg of apomorphine subcutaneously, on a case by case basis. The OFF periods were measured before the initiation of the treatment, as well as after, during the course of the hospitalization. **Results :** Preliminary results suggest an important effect on the quality of life of the patients. Thus, in patients treated conservatively, the disappearance of freezing phenomena and a significant decrease in OFF period duration have been observed. Out of the patients treated invasively (levodopa-carbidopa intestinal gel, LCIG), one didn't show clear signs of OFF periods but

suffered from sixty to ninety minutes of painful dystonia, which responded favourably to subcutaneous apomorphine, while another patient did not experience an improvement in symptoms. **Conclusions:** Even though the treatment is relatively new in our centre, the results of this analysis illustrate the effectiveness of subcutaneous apomorphine injections in the management of OFF periods, resulting in an increased quality of life and patient satisfaction. Apomorphine pens have shown to be an important treatment alternative for patients with inadequate symptom control under other therapies.

Keywords: Parkinson's disease, apomorphine, OFF periods

INFLAMMATORY BOWEL DISEASES AND EXTRAINTESTINAL MANIFESTATIONS

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Background: Inflammatory bowel diseases (IBD) are a group of disabling idiopathic diseases, comprising Crohn's Disease (CD) and Ulcerative Colitis (UC), identified as remitting and relapsing chronic inflammation of the gastrointestinal tract. CD can interest the entire gastrointestinal tract in a discontinuous manner from mouth to perianal area, most frequently involving the terminal ileum and colon, while UC affects, in an uninterrupted manner, mainly the rectum. IBD can cause extraintestinal manifestations (EIM), which increase the burden of the disease. They can be classified into four groups based on the assaulted organ system: musculoskeletal, mucocutaneus, ocular and hepatobiliary. **Objective:** The aim of this paper is to present the most recent findings regarding EIM in IBD. **Material and methods:** We performed a review of literature by searching Google Scholar and Pubmed for recent articles about the current knowledge of EIM in IBD. **Results :** EIM are relatively commonly associated with IBD with a frequency from 6% to 47% and they are more prevalent in CD (30-71%) compared to UC (21-22%). It is suspected, that EIM are more common in younger patients and in the early onset of the disease. They usually appear after the diagnosis of IBD but they can manifest before the disease as well, as observed in 25% of the reported patients. It has been shown that patients can also have more than one EIM: more than 20% of the patients can present with two of them and more than 10% with three. Most common are the musculoskeletal disorders (arthritis) which usually are the earliest manifestations as well. Arthritis is grouped into axial spondyloarthropathy, which affects 5-22% of patients with CD and 2-6% with UC, and peripheral arthropathy (type 1 and type 2), seen in 10-20% of patients with CD patients and 5-10% with UC. Other common EIM are mucocutaneus (erythema nodosum being the most frequent skin disorder seen in 15% of CD and in 10% of UC), ocular (most often encountered together with musculoskeletal manifestations and observed in 3.5-6% of CD and 1.6-4.6% of UC) and hepatobiliary (primary sclerosis cholangitis is the most frequent disorder noticeable in 5% of UC and less in CD). **Conclusions:** EIM are frequently reported in patients with IBD affecting different organs and being very debilitating for the patients.

Keywords: Ulcerative Colitis, Crohn's Disease, Extraintestinal Manifestations

THE EMOTIONAL IMPACT OF THE COVID-19 PANDEMIC. A COMPARISON BETWEEN MEDICAL AND NON-MEDICAL STUDENTS

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Background: Since the beginning of 2020, the whole world has been struggling to fight the SARS-CoV-2 virus and the disease it causes, namely COVID-19. Besides its main impact on the respiratory tract, other organs such as the kidneys, the heart and the gastrointestinal tract can be affected. With the main focus often being on the clinical aspects of the disease, the emotional impact of this pandemic is often forgotten. Especially the preventive measures such as social isolation, which were set by the government, put a strain on many people, including students. **Objective:** We aimed to evaluate the severity of the emotional impact of the pandemic and its preventive measures on medical and non-medical students, the most common complaints as well as possible causes. **Material and methods:** The study included 77 participants of which 38 were medical students and 39 were non-medical students, aged 18 till 34, from different European countries. The data was collected by an online questionnaire using Google Forms and analyzed using Microsoft Office Excel 2020. **Results :** Only a low number of students* from either group (10,5% medical students, 10,3% non-medical students) did not describe any emotional impact. A similar percentage of students from both groups was moderately affected (36,8% MS, 38,5%

NMS) whereas a higher percentage of non-medical (35,9%) compared to medical students (23,7%) experienced a severe or very severe emotional impact. A larger number of medical students (28,9%) than other students (15,4%) described being only mildly affected. The emotional manifestations did not differ in between the groups, most commonly experienced in the order of frequency were loneliness, depressive episodes, anxiety and lack of motivation. Mentioned causes were social isolation, not being able to travel and see their families, lack of physical exercise as well as the fear of getting infected themselves or losing loved ones through the virus. The place of residence, genetic predisposition and previous mental illnesses can have an impact as well. **Conclusions:** The pandemic and its preventive measures influenced the mental well-being of students, independently of the course of study. A higher number of non-medical students were more severely affected, one possible favoring factor is the predominance of females in that group of students. The experienced symptoms and complaints as well as the causes mentioned by the students did not differ in between the two groups.*Rounded values

Keywords: COVID-19 pandemic, students, emotional impact

LUNG DISEASES ASSOCIATED WITH CHRONIC HEART FAILURE CHALLENGES FACING PHYSICIANS

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Background: Observed one-sided, chronic heart failure (CFH) looks relatively easy to understand, but the true challenge is the approach of this disease in the context of other associated comorbidities. **Objective:** The aim of this study is the observational analysis on the variation of pulmonary comorbidities depending on various clinical, demographic and laboratory parameters. **Material and methods:** This study is a retrospective, observational one that analysed 403 patients, mean age 64 years, presenting chronic heart failure and other associated comorbidities, admitted in the Internal Medicine Clinic III between January 2019-December 2020. Patients were grouped according to criteria such as sex, age, NYHA class, body mass index (BMI), ejection fraction (EF), natriuretic peptide value (NT-pro-BNP). **Results :** From 403 patients 71.5% (288) were associated with at least one lung disease. Among NYHA IV patients, 92.1% also associated at least one pulmonary comorbidity, statistically significant more than patients in the other NYHA classes of CHF pulmonary arterial hypertension (p = 0.006) and pleural effusion (p = 0.001) prevailed in them. Regarding the gender of the patients, the proportion of men who had at least one lung disease is statistically significantly higher than that of women (76.2% vs 67.3%, p = 0.048). They are more prone to COPD (44 patients, 47.9%) and chronic bronchitis, while women more often developed asthma (11 patients, 2.72%). Patients with reduced and mildly reduced EF had a statistically significantly higher proportion of lung diseases compared to patients with preserved EF (43.9% with a p = 0.02). Also, patients who had at least one lung disease had significantly higher mean values of natriuretic peptides compared to those without lung disease (p = 0.009, 9810.16 pg/ml compared to 5372.79 pg/ml). **Conclusions:** Pulmonary comorbidities are more common in patients with heart failure with reduced ejection fraction and also the severity of CHF demonstrated by the values of natriuretic peptides is associated with the presence of significant lung diseases.

Keywords: heart failure, pulmonary diseases, natriuretic peptides

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HYPERANDROGENISM OF ADRENAL ORIGIN

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Background: Non-classic adrenal hyperplasia (NCAH) is a disease in which a partial deficiency of the steroidogenic enzyme 21-hydroxylase produces mild to moderate hyperandrogenemia, hirsutism, polycystic ovaries, oligomenorrhea or amenorrhea, insulin resistance, male pattern baldness and subfertility. **Objective:** The aim of our study was to determine the prevalence of non-classical adrenal hyperplasia (21-hydroxylase-deficiency) in hyperandrogenic patients, its biochemical, endocrine, and clinical characteristics. **Material and methods:** Patients hospitalized in the Endocrinology Clinic from Târgu Mures with elevation of serum androgens or androgen precursors, manifestation of one of the clinical androgenic symptoms (oligo/amenorrhea, hirsutism, or acne) and elevated basal 17 hydroxyprogesterone were considered for ACTH 0.25 mg (i.v.) stimulation test 17-hydroxyprogesterone responses were obtained at 30 and 60 min. The diagnosis of NCAH due to 21-hydroxylase

deficiency was considered in patients with the poststimulation 17-hydroxyprogesteron level 10 ng/ml. **Results :** Out of 450 patients with hyperandrogenism, 50 had basal 17 hydroxyprogesterone measured with 26 of them presenting an elevated basal 17 hydroxyprogesterone. A basal 17 hydroxyprogesterone concentration ≥2 ng/ml was used for screening and 23 patients went through ACTH stimulation test. Only five (1,1%) patients were identified as having 21- hydroxylase deficient NCAH in the whole group of hyperandrogenic patients and 2 had NCAH due to 21-OH deficiency confirmed by genotyping of the CYP21 gene. Among the patients, one presented basal 17 hydroxyprogesterone > 10 ng/ml and was diagnosed without ACTH stimulation test. Hirsutism and oligo/amenorrhea was present in all adult female NCAH cases, while acne was absent. We observed elevated testosterone levels in three of the patients, simultaneously DHEAs and prolactin levels were overall normal. Two female patients exhibited polycystic ovarian morphology along with LH/FSH ratio greater then 2,5. **Conclusions:** In our study, the prevalence of non-classic adrenal hyperplasia in hyperandrogenic patients was 1,1%. Their leading symptoms were hirsutism and oligo/amenorrhea.

Keywords: hyperandrogenism, basal 17-hydroxyprogesteron, 21-hydroxylase, non-classic adrenal hyperplasia

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IS THE PRESENCE OF SEBORRHEIC KERATOSES LINKED TO SKIN CANCER KNOWLEDGE? A CLINICAL ANALYSIS.

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Background: Seborrheic keratoses are one of the most common types of benign skin tumors, with an increased frequency among the elderly population, often being found incidentally. Although these lesions have distinctive features, it is important to differentiate them from other benign or malignant skin lesions, given the fact that melanoma incidence among the population is increasing. **Objective:** The aim of the study was to assess the perception and the general knowledge, including attitudes, beliefs, and prevention practices of skin cancer among the patients from the dermatology hospital. Another aim of this study was to determine the prevalence and distribution of seborrheic keratoses among this participants. **Material and methods:** Thirty people aged 43 to 86 years were questioned about their general knowledge about skin cancer, including attitudes, beliefs, risk factors and prevention practices. They were evaluated clinically and by using a 23-items questionnaire, in order to identify sun-exposure behaviors and the presence and distribution of seborrheic keratoses among them. The patients included in this analysis were admitted in the Dermatology Clinic of Mureș Clinical County Hospital. **Results :** 76,6% of the participants consider they lack information about skin cancer and only 23,3% participants had their moles previously checked. 60% do not know what a sunscreen is. Only 16,6% of the participants use sunscreen. Out of 30 pacients, 18 had at least one seborrheic keratoses (60%), 33,3% having multiple lesions, most freqvently on the back (72,2%), the average size being 5 mm. **Conclusions:** There is a worrying lack of knowledge about skin cancer and sun protection behaviours among the pacients admited to the dermatology hospital, given the fact that only a few use sunscreen protection and have a minimum knowledgne about prevention. Regarding seborrheic keratoses, the findings confirm that SKs are common lesions among the elderly population.

Keywords: Skin cancer, sunscreen, seborrheic keratoses

SARS-COV-2 VACCINATION IN MULTIPLE SCLEROSIS PATIENTS

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Background: The recent availability of SARS-CoV-2 vaccines for patients with multiple sclerosis (MS) has raised worries concerning their risks and safety. Although no substantial evidence regarding the vaccination and clinical deterioration of MS was noted, live attenuated virus vaccines are generally contraindicated for MS patients. BNT162b2 vaccine with mRNA based technology was the agent of choice for MS patients. **Objective:** Our objective was to evaluate a cohort of MS patients regarding the vaccination decision, adverse effects and to assess the occurence of immediate relapses following vaccination, if any. **Material and methods:** 105 patients with MS registered in the Regional Centre of Diagnosis and Treatment for Multiple Sclerosis, Neurology 1 Clinic of Emergency Clinical County Hospital of Mures were included in the study. The evaluation was performed based on an oral questionnnaire which contained the following data: demographical characteristics (including living environment and educational status), MS onset, vaccination status, type of vaccine, adverse effects if any (lenght,

duration, intensity), specific MS related adverse effects, reasons for not being vaccinated, allergy status, SARS-CoV-2 infection, type of treatment. **Results :** Out of 105 MS patients, 54% were vaccinated, 61% had two doses, 19% three doses and 19% one dose; the majority were vaccinated with BNT162b2. After administration of both doses, two patients presented SARS-CoV-2 infection (after 6 months), one patient experienced SARS-CoV-2 infection between doses, and all had mild clinical symptoms. Three patients experienced a relapse but after more than one month after the last dose. Four patients have noticed a worsening of the condition for a short period of time after the vaccination with subsequent complete remission. A higher percentage of adverse effects was noted in patients with a mild form of disease (EDSS≤3), younger (≤55 years old). 73% of all adverse effects lasted for a day, with mild intensity in 51% of the cases. 41% had pain around the vaccination site as a main adverse effect and 35% did not present any adverse effects. 46% of the patients were not vaccinated out of which 58% were planning to get vaccinated in the near future. Less than 50% of patients from rural areas were vaccinated. The highest rate of complete vaccination was found in patients with high educational level (university, post-university studies). **Conclusions:** Anti-COVID-19 vaccination with mRNA technology vaccin represents a safe vaccination method for patients with MS.

Keywords: vaccination, multiple sclerosis, COVID-19, adverse effects

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LIVER CIRRHOSIS ASSOCIATED WITH GLYCOREGULATORY DISORDERS

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Background: Chronic liver disease is often associated with glycoregulatory disorders, such as impaired glucose tolerance (IGT) and diabetes mellitus (DM). In patients with liver cirrhosis, diabetes mellitus may be a risk factor for the development of cirrhosis or may occur as a consequence of cirrhosis, affecting the mechanism of glucose regulation, the so-called hepatogenous diabetes (HD). **Objective:** The aim of the study is to identify the association between liver cirrhosis and glycoregulatory disorders, as well as the prevalence of associated risk factors. **Material and methods:** We performed a retrospective longitudinal study, which includes 88 patients with liver cirrhosis, hospitalized in First Internal Medical Department, County Emergency Clinical Hospital Târgu-Mureș, between January 2018 and December 2019. For these patients we collected demographic data; clinical data such as diagnosis, the etiology of liver cirrhosis, Hepatitis B Virus (HBV) or Hepatitis C Virus (HCV) infection, treatment for diabetes; paraclinical data such as abdominal ultrasound; laboratory data regarding diabetes - the value of blood glucose at admission and regarding other risk factors: serum albumin, total bilirubin, International Normalized Ratio (INR). **Results :** Out of the total number of patients, 66% are men and 34% are women, coming from both rural and urban areas, and their ages are between 19-86 years old. Clinically, 68% of patients don't have diabetes mellitus and 32% have diabetes mellitus. For inferential statistics, we used the Fisher test and found the following: there is a statistically significant correlation between alcohol as a risk factor and diabetes *(p = 0.01)*, but a statistically insignificant correlation between HBV / HCV viral infection and diabetes mellitus *(p = 0.39)*. DM can also be considered a risk factor for gallstones, as there is a statistically significant correlation between them *(p = 0.02)*. **Conclusions:** Liver cirrhosis in association with diabetes is a challenge for the management of both diseases, both in terms of treatment and complications, and the etiology of cirrhosis may be a risk factor for hepatogenous diabetes.

Keywords: liver cirrhosis, diabetes, risk factors, complications

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INFLUENCE OF COVID-19 PANDEMIC ON STEMI TREATMENT IN A HIGH-VOLUME HUB

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Background: Covid-19 pandemic showed a significant impact on medical field especially in terms of the management of cardiovascular emergencies as treatment of Acute Myocardial Infarction. **Objective:** This study aims to evaluate the influence that COVID-19 pandemic showed on the treatment of acute myocardial infarction in a high-volume hub center. **Material and methods:** We performed a comparison of presented and treated AMI cases during the first trimester of pandemic year 2020 and the same period of 2019. **Results :** The number of hospital presentation for AMI decreased by one quarter in 2020 as compared to 2019, while the number of non-

AMI cases decreased up to 75% in pandemic year compared to 2019 (p<0.0001). As consequence AMI became the dominant pathology of the center with a 65%. No differences were recorded in terms of hub functionality, but the center encountered a reduction of critical AMI cases (22% vs. 11%, p = 0.07 for out of hospital cardiac arrest, and 16% vs. 6% p = 0.03 for AMI Killip class III-IV). **Conclusions:** The COVID-19 pandemic presented no major influence on hub functionality, but a limitation in bringing the critical AMI cases to cathlab was identified.

Keywords: COVID-19, acute myocardial infarction, STEMI hub

THE LINK BETWEEN MAGNITUDE OF THE ST-SEGMENT ELEVATION, ACUTE INFLAMMATORY RESPONSE, AND MYOCARDIAL SCARRING IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION.

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Background: Based on the ISSTE Score (Integrated ST-segment elevation score), ECG changes can be measured both pre and post primary myocardial revascularization (pPCI) for acute ST-segment elevation myocardial infarction (STEMI). Regarding the post-myocardial infarction healing process, the inflammatory response is the main mechanism involved in the scar formation and left ventricular remodelling process. With important accuracy, cardiac magnetic resonance (CMR) imaging allows not only the quantification of myocardial function, but also the evaluation of the myocardial fibrotic tissue. **Objective:** the objectives of this study were to assess not only the association between the ISSTE score and inflammation but also with the myocardial scar extension assessed thru CMR. **Material and methods:** 30 patients with STEMI who received pPCI in the first twelve hours after the onset of symptoms were enrolled in the study. For all patients, at presentation and after 2 hours from pPCI the ISSTE-1 respectively ISSTE - 2 score were quantified. Also, on admission and on the day 5, inflammatory markers were assessed. After one month from the acute event an LGE-CMR was performed to assess the cardiac function, the magnitude of infarct size (IS) and transmurality. Based on the value of the median ISSTE score, the study population was divvied into two groups: group 1 low ISSTE and group 2 high ISSTE. **Results :** There were no significant corelations regarding CMR parameters and inflammatory markers between the group 1 and group 2 in patients with ISSTE-1. However, the CRP level on day 5, IL-6 and MMP-9 were significantly higher in ISSTE-2 group (all p <0.05). Also, IS- LV mass, percentage and transmurality were higher in these patients (all p = 0.001). In addition, the higher the ISSTE-2, the higher IS- LV mass (r=0.91), percentage (r=0.54) and transmurality (r=0.45), respectively a reduced LVEF (r=−0.40) (all p <0.0001). **Conclusions:** The inflammatory response, stated by higher IL-6 and MMP 9 levels at baseline, and CRP on day 5 of onset of symptoms, is correlated with an elevated ISSTE-2 score. Also, a higher ISSTE-2 score is usually corelated with an unfavourable prognosis expressed by a reduced ejection fraction, respectively a higher transmurality and larger fibrotic area.

Keywords: myocardial infarction, cardiac magnetic resonance, ISSTE score

ASSESSMENT OF CORONARY PLAQUE INFLAMMATION USING ANGIO CT AND ARTIFICIAL INTELLIGENCE IN POST-COVID PATIENTS

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Background: CT attenuation of adipose tissue surounding coronary arteries reflects coronary inflammation and is associated with plaque vulnerability. FAI score (fat attenuation index score) is a new, artificial intelligence-powered parameter, which measures coronary inflammation. The aim of this study was to investigate the particularities of FAI score in patients who underwent AngioCT examination for chest pain in the first weeks after a COVID-19 infection. **Objective:** The objective was ton assess coronary plaque inflammation using Angio CT and Artificial Intelligence in post-COVID patients. **Material and methods:** In total, 67 patients with chest pain and obstructive coronary plaques with were enroled in the study, from which 35 had COVID-19 several weeks prior to CT examination - Group 1. Group 2 consisted in 32 patients, age and gender adjusted, who did not preented coronavirus infection prior to CT examination. In all patients, FAI and AI-based FAI were calculated for each coronary artery. **Results :** Average FAI index did not present a sginificant difference between the study groups (13.7 +/- 9.3 vs 13.6 +/- 13.0, p=0.06). However, FAI sub-analysis according to coronary distribution reveled that

post-COVID patients had a significantly higher degree of inflammation in the right coronary arteries than in the left coronary arteries, while this difference was not significant for non-COVID patients. Right coronary FAI was 18.6 +/- 16.3 in group 1 compared to a Left coronary FAI of 11.1 +/- 10.0 in the COVID group (p=0.03), in the non-COVID group this difference was not statistically significant (16.1 +/- 12.0 versus 12.7 +/-7.4, p=0.3). **Conclusions:** COVID-19 infection is associated with a higher risk of coronary plaque vulnerabilization, which is reflected by increased increased inflammation of pericoronary fat, and this may be correlated with distribution of plaques in the coronary territory. Plaques located in the right coronary artery are more exposed to inflammatory injury in post-COVID patients. The novel, AI-based FAI index may be a usfeul tool to early detect the risk of acute coronary syndromes in post-COVID patients.

Keywords: coronary plaque, Angio CT, post-COVID patients, Artificial Intelligence

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ASSOCIATION BETWEEN PERIOSTIN AND INFLAMMATORY BIOMARKERS IN PATIENTS WITH ACUTE CORONARY SYNDROMES AND PERIODONTAL DISEASE

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Background: It is well known that periodontal disease (PD) is corelated with an increasedinflammatory response, which can favoure plaque rupture and subsequent acute coronarysyndrome (ACS). Nowadays, Periostin (Pn) is considered to be a new inflammatorybiomarker involved not only in the myocardial recovery after an ACS but also in the acutephase; however, the link between Pn and inflammation in patients with ACS and concomitant PD has not been elucidated so far. **Objective:** To study the link between Pn and the systemic inflammation regarding clinical evolution following an ACS. **Material and methods:** 92 patients with ACS and concomitant PD were included. According to the medianvalue of the periostin level (set by 30,63 ng/ mL), the study population was divvied as followgroup 1 - 46 patients with low Pn level and group 2 - 46 patients with high Pn level. For all patients the inflammatory status was evaluated (C reactive protein, interleukin 6, endothelial adhesion molecules [VCAM/ICAM], P-selectin, matrixmetalloproteases [MMP9]). For CRP the values were noted at baseline and in day 7. **Results :** ST elevation myocardial infarction (p=0.0004) and heart failure (p=0.002) weremore frequent in group 2. Also, these patients required a longer duration of hospitalization(p=0.008) inclusive in the intensive coronary care unit (p=0.004) as well as a severemyocardial damage expressed by the total level of creatine kinase (p=0.0004). Theinflammatory response, expressed by serum levels of MMP 9, was stronger in patients withhigh Pn level (p = 0.003). However, although serum levels of CRP at admission and in day 7were considerably lower in group 2 a significant increase can be observed in these patients inthe first week. **Conclusions:** Patients with higher levels of Pn have worse cardiovascular outcomesespecially due to the correlation with MMP, involved in plaque vulnerability and myocardialrepair.

Keywords: periodontal disease, acute coronary syndrome, inflammatory biomarkers

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THE RELATION BETWEEN SUDDEN CARIDAC DEATH AND CULPRIT LESION CAUSING MYOCARDIAL INFARCTION

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Background: Sudden cardiac death can often complicate myocardial infarction. Multiple relations have been described between the affected coronaries and this complications. **Objective:** The objective of this study was to investigate the correlation between culpritlesions and the malignant arrythmia in patients with myocardial infarction. **Material and methods:** Our study included 177 patients admitted with the diagnosis of STEMI to the County Hospital of Targu Mures, Department of Emergency Cardiology, for an emergency coronarography, between January and July 2021. The study group was divided into two groups. Group A: patients who suffered sudden cardiac death in pre-hospital settings. Group B: control group. We analysed the coronary lesions, the general risk factors, the echocardiographic parameters, and the rate of death during follow-up. **Results :** The mean age was 56,74 years, and the total mortality in the examined group was 5,6%. In caseof women, sudden cardiac death occurred more frequently (70%) than in men (30%). In group A location of the the culprit lesion was: 52% at the levelof LAD, ACX 16%, RCA 24%, LM 8%, while in group B this was: 43,26% at the levelof LAD, 42,55% in RCA, 8,51% in ACx, 0,71% in LM, and 4,96% in D1. According to the echocardiographic results, the

mean ejection fraction in patients of group A was 38,65%, and 43% in group B. In 46,15% of patients of group A with LAD involvement chronic RCA occlusion was present, with a high risk for sudden cardiac death, while in group B this rate was 11,47%. **Conclusions:** In vast majority of cases, LAD location was present in the case of post infarctional sudden cardiac death. Our studies highlights, that ejection fraction below 40% and accompanying RCA occlusion represents a higher risk factor for the occurrence of sudden cardiac death.

Keywords: culprit lesions, myocardial infarction, sudden cardiac death, malignant arrythmia

THE ASSOCIATION BETWEEN ANXIETY AND DEPRESSIVE SYNDROME WITH THE DEVELOPMENT OF CARDIOVASCULAR COMORBIDITIES IN PATIENTS ADMITTED TO THE COVID19 WARD.

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Background: It was observed that patients admitted to the COVID19 Department of Internal Medicine often required the addition of various psychiatric drugs to their treatment schedule due to acute anxiety or undiagnosed depressive-anxiety syndrome until the time of presentation in the medical unit; symptoms that often worsened in a typical manner or with various somatic complaints, amid prolonged hospitalization for SARSCoV2 infection. **Objective:** Identifying the association between anxiety/depression symptoms and the development of somatic comorbidities in different systems in patients hospitalized with COVID19. **Material and methods:** Prospective observational study conducted by applying a questionnaire. The questionnaire was designed according to validated questionnaire templates successfully applied in other studies and built specifically for hospitalized patients between 01.10.2021-16.03.2022, a total group of 200 participants. **Results :** There was a statistically significant association between cardiovascular complaints, such as tachycardia, palpitations, chest pain, chest pressure, fainting and the need for psychiatric treatment, p = 0.0001. Among those treated, 59.6% responded about the cardiovascular symptoms with "present, sometimes having difficulty controlling them, so that they interfere with the patient's life and activity", compared to 28.7% of those without treatment. Also, only 5.3% denied the presence of cardiovascular symptoms among those receiving psychiatric treatment, compared to 29.4%; a significantly higher value for those who did not receive therapy. **Conclusions:** Firstly, all the patients included in the study group were appropriately treated for their cardiovascular conditions. Still, many of them complained of cardiovascular-like symptoms originating from anxiety and depression. Proven previous studies show a significantly higher value of cortisol in anxious / depressed patients with an inhibitory effect on the parasympathetic component of the autonomic nervous system which ensures rest and recovery. We support the hypothesis that in depression the body inclines more to the state of "fight or flight" and less to the state of "rest and digestion" being ultimately a risk factor for cardiovascular diseases. In addition, while considering the need for psychiatric treatment for patients with somatized anxiety depressive syndrome, it is important to consider the possible side effects. For patients with a history of cardiovascular pathology, between the two first-line antidepressant treatments, selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs) the SSRIs are more encouraged.

Keywords: Anxiety, Depression, COVID-19 patients, Cardiovascular

T CELL LINES AND THEIR ROLE IN FIRST LINE ATTACK IN NAIVE MULTIPLE SCLEROSIS PATIENTS

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Background: Multiple Sclerosis is an acquired autoimmune disease effecting the central nervous system. Most patients are diagnosed as young adults. With more than 2.8 million people suffering from the disease worldwide it has become the most common non-traumatic disabling disease. The pathology of MS is still not fully understood, and a lot of research is conducted all over the world to further clarify the exact pathways. A process which involves the recruitment of autoimmune cells in the peripheral blood, their migration in the CNS though the Blood-Brain-Barrier (BBB) and ultimately leading to focal and widespread inflammatory responses in the CNS. Multiple Sclerosis Pathology seems to be strongly T-cell mediated. Especially some proinflammatory subsets of T-helper

cells have been recognized as being highly encephalitogenic. Th1 and Th17- cells have been the main topic of research. They are named after their main corresponding cytokines namely Interleukin 1 and Interleukin 17. Newer studies revealed additional subsets of T-helper cells which share properties of Th1 and Th17- cells. This subset was named Th17.1 and it seems to play a crucial role in the transmigration into the CNS through the BBB, also making the BBB more susceptible for other lymphocytes as well. **Objective:** In this study we compare the different subsets of T-helper cells in the peripheral blood of naive multiple sclerosis patients. We hope to better understand the processes leading to the first wave attack in MS. Furthermore, a different T-cell profile in different patients could elaborate which medication is best suitable on an individual level. **Material and methods:** The blood of 25 naive MS patients was evaluated using flow cytometry. The different Th subsets were quantified and compared with a control group. The results were further compared within the group concerning sex, number of relapses, disease years and onset of the first symptoms. **Results :** The research is aiming to find differences in the T helper cells differentiation in MS patients and healthy patients. Furthermore, we hope to understand how certain Th-cells profiles can predict disease progression and allow physicians in the future to choose the best therapy for each patient. Therefore, improving therapy efficiency and minimize adverse reactions. **Conclusions:** Researching the exact pathologic mechanisms is of major importance in understanding the complicated genesis of MS. This can help to find tools to understand individual differences in patient traits and allow for a more specific treatment choice.

Keywords: Multiple Sclerosis, Neuroimmunology, Th 17.1 Cells, Autoimmune

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OCLUSION BASILAR ARTERY (OAB) – CLINICAL MANAGEMENT AND THERAPY

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Background: Basilar artery occlusion is a relatively rare ischemic form of cerebral vascular attack that which is based on the combination of several risk factors such as old age, hypertension, smoking, alcohol consumption, dyslipidemia, arteriopathy, ischemic cardiopathy and diabetes, and the symptoms prevailing by disturbance of balance, vestibular and bulbar syndromes, vertigo, nistagmus and even coma. **Objective:** We carried out a cross-sectional retrospective study by which we wanted to identify the prevalence of the basilar artery occlusion among the population of Târgu Mureş in 2021, per 10.000 residents. Also to see the association of risk factors in the onset of the disease, the neurological deficit of patients and other clinical and therapy aspects. **Material and methods:** We have included in this study 12 patients who admitted to the Neurology Clinic of the County Clinical Hospital in Târgu Mureş in 2021. We calculated the prevalence of the disease and also discovered a significant statistical association between hypertension and basilar artery occlusion. **Results :** So the prevalence of basilar artery occlusion in Târgu Mureş in 2021 was 0,06% per 10.000 inhabitants. The male to female ratio was (M:F= 2:1) and the patient age were between 5 to 8 decades. We also discovered a semnificative statistical association between hypertension and basilar artery oclusion (p=0,015) and a confidence interval (IC = 95%). The other risk factors likely smoking, alcohol consumption, dyslipidemia, ischemic cardiopathy, diabetes they have not had a direct association with the basilar artery oclusion. All 12 patients benefited from Transcranial Eco-Dopler, CT, Angio-CT and as therapy 4 patients received endovasculular treatment, 6 from 12 patients received IV thrombolysis, all received antiplatelet agents, 5 from 12 patients received anticoagulant, 10 from 12 patients received heparin for prophylactic purposes and 10 from 12 patients received statin treatment. Despite the thrombolytic treatment administered, 5 from 6 patients had a neurological deficit at discharge from hospital and only one patient was without neurological deficit. **Conclusions:** Basilar artery occlusion is a low prevalence disease in the population that has as primary risk factor arterial hypertension, but combined with tobacco, alcohol and diseases such as obesity, diabetes, arteriopathy or ischemic cardiovascular disease may have a higher rate of population distribution. Also the thrombolytic treatment delivered to patients in the therapeutic window it has not significantly resolve the neuronal deficit of these patients.

Keywords: bazilar artery oclusion, Hypertension, Trombolysis, Prevalence

THE ASSOCIATION BETWEEN PLATELET COUNT AND CLINICAL MANIFESTATIONS OF THROMBOCYTOPENIA IN PEDIATRIC PATIENTS

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Background: Platelets, also called thrombocytes, are a part of the cellular components of the blood, along with red and white cells, and play an important role in hemostasis. Thrombocytopenia represents a condition in which the platelet count is lower than normal. This condition can occur depending on variable causes, for instance, diminished production, increased destruction or sequestration of the platelets, and can lead to cutaneous and mucosal hemorrhages. **Objective:** The aim of this study is to evaluate if there is any correlation between the platelet count and the clinical manifestations of thrombocytopenia. **Material and methods:** We performed a retrospective and descriptive study that included 132 patients admitted to Pediatric Clinic II Targu-Mures diagnosed with thrombocytopenia between 01.01.2015 and 31.12.2020. The patients were between 28 days and 18 years old. We selected the following data from each patient's medical file: sex, age, clinical manifestations, medical investigations, diagnosis, and treatment. **Results :** 30% of the cases presented clinical manifestations of thrombocytopenia. The most frequently encountered clinical sign was ecchymosis (33%), followed by petechiae (26%), epistaxis (13%), suffusions of the skin (10%), purpura (6%), hematomas (4%), splenomegaly (4%) and bleeding gums (3%). The Mann-Whitney U test was applied and we obtained a statistically significant difference in patients who presented petechiae ($p<0,0001$), purpura ($p=0,003$), ecchymosis ($p<0,001$) and suffusions of the skin ($p<0,001$), but on the other hand we did not obtain a statistically significant difference in patients with epistaxis ($p=0,257$), bleeding gums ($p=0,858$), hematomas ($p=0,281$), and splenomegaly ($p=0,375$). **Conclusions:** According to the results, the low platelet count was associated with the clinical manifestations of petechiae, purpura, ecchymosis and suffusions of the skin, but not with the presence of epistaxis, bleeding gums, hematomas and splenomegaly. These clinical signs of active bleeding are rare, but if they do occur, they usually indicate the severity of the case.

Keywords: thrombocytopenia, pediatric patients, platelet count

CONTROVERSIES ASSOCIATED WITH BIRTH ROUTES OF BABIES WITH CONGENITAL CARDIAC MALFORMATIONS

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Background: Regarding newborns with associated cardiac malformations, no consensus of appropriate birthing routes has been established. Both, the vaginal birth and the cesarean section comprise a variety of advantages as well as possible disadvantages for babies with congenital cardiac defects. Depending on a possible antenatal diagnosis, the delivery can be better planned and managed with preparations for possible postnatal complications. **Objective:** The relationship between birth routes and short term results of babies born with congenital cardiac malformations is to be evaluated. **Material and methods:** This retrospective study is based on a data collection between 2014 and 2016, contemplating 84 patients, born with congenital heart defects of different severities. Factors included in the research were antenatal diagnosis, the type of diagnosis, birth routes and short term results. These contain information regarding the APGAR scores of 1 and 5 minutes, postnatal onset of symptoms, including cyanosis and respiratory distress. **Results :** Out of the 84 patients included in the study, 57% were antenatally diagnosed with a cardiac malformation, with over 15% of severe malformations including transposition of the great arteries or hypoplastic left heart syndrome. Regarding the birth route, 50% were born via a vaginal birth and 50% via a cesarean section. In comparison of the APGAR scores of 1 minute, in the babies born via the cesarean section, 83% had an APGAR score of 8 or higher, compared to 79% in babies born via the vaginal birth route. Furthermore, postnatally, in 69% of the newborns born vaginally, the symptoms started within the first 12 hours compared to 62% born via cesarean section. Regarding the symptoms itself, cyanosis and respiratory distress were the main focus. In 52% of newborns born via a vaginal birth, respiratory distress as well as cyanosis were present, compared to 48% born with a cesarean section. **Conclusions:** Newborns delivered via a cesarean section have a lower rate of postnatal respiratory distress and symptom development as well as a higher APGAR

score of 1 minute.

Keywords: congenital heart defects, vaginal birth, cesarean section

ABDOMINAL PAIN AND PANGASTRITIS WITH HELICOBACTER PYLORI

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Background: Helicobacter Pylori (HP) is one of the most common infection, frequently found in patients with dyspeptic symptoms. Functional dyspepsia is a gatrointestinal disorder, comprising postprandial distress syndrome and the epigastric pain syndrome - with symptoms such as epigastric pain, heartburn and belching. **Objective:** The aim of this study is to correlate inflammatory HP changes involving corpus and antrum with abdominal pain symptoms epigastric pain, heartburn, belching and bloating in consceutive patients undergoing upper digestive endoscopy. **Material and methods:** 256 patients performing an upper digestive endoscopy with histological examination, between 2017-2021, were included in the study. We excluded patients with premalignant and malignant histopathological lesions. **Results :** The study group consisted of 116 (45,31 %) patients with HP pangastritis and in the control group were 140 (54,69%) patients without the infection. The mean age in the control group was 61.41 years (n=140) with no significant difference from the study group, where the mean age was 62.11 years (n =116). There were no significant gender differences between patients in the two groups (p= 0.167; OR = 0.6842; 95% CI: 0.4222 -1.134). In this study, epigastric pain and HP infection were not associated (p= 0.133; OR = 0.6812; 95% CI: 0.4174-1.134). There were no correlations between HP infection and belching (p = 0.999; OR = 0.8012, 95%CI: 0.1404-3.983). We obtained the same results concerning bloating and HP infection (p =0.340; OR = 0.7182; 95%CI: 0.3875-1.327). Heartburn was significantly more common in patients with pangastritis compared to the control group (p = 0.035; OR = 0.5073; 95%CI: 0.2811-0.9315). **Conclusions:** The results of the study revealed no association between HP pangastritis and epigastric pain, belching or bloating but there was a significant correlation between heartburn and the extensive infection with HP, rising the problem of the delay diagnosis of corporeal gastritis and gastric cancer risk.

Keywords: Helicobacter Pylori, Abdominal pain, Heartburn, Pangastritis

THE INFLUENCE OF INFORMATION SOURCES ON CONSUMERS' BEHAVIOUR AND CUTANEOUS PARAMETERS: A CROSS-SECTIONAL STUDY

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Background: Skincare is the most important step in enhancing genetic inheritance or the method of slowing down the aging process caused by endogenous and exogenous aggressors. Depending on the place of origin of the information that influences us in buying care products, we can bring a visible benefit to the skin or its damage, by adopting routines totally inappropriate to the requirements of the skin. **Objective:** The aim of this paper is to draw attention to the pitfalls of non-personalized skincare routines by considering patients' information sources and the analysis of cutaneous parameters. **Material and methods:** Patients aged between 18 and 35 were enrolled in this study. The patients were asked to complete a questionnaire which assessed information sources, level of perception towards skin diseases and were evaluated clinically, dermoscopically and by using ultrasound by a dermatologist. **Results :** 35 patients were enrolled in this study. The majority were females (65.7%). 80% of patients have more confidence in the recommendations made in person than online and 65.7% of them recall that they consider a doctor as being the most reliable source of information. Regarding weather influence, 74.2% of the questioned acknowledge that the season influences the choice of skincare products. **Conclusions:** Both the source of information and an appropriate adaptation of skincare regimens acording to cutaneous parameters seem to be mandatory for a healthy skin. A more foccused and informed approach when choosing skincare products is required especially when dealing with skin disorders.

Keywords: skincare, social media, skin hydration

GASTRODUODENAL HISTOLOGICAL FINDINGS IN PATIENTS WITH ANAEMIA

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Background: Practicing specialists are frequently dealing with patients diagnosed with anaemia that need an upper digestive endoscopy. Histological gastric and duodenal examinations revealing lesions such as gastritis associated with Helicobacter Pylori(HP) infection, gastric atrophy(GA), intestinal metaplasia(IM), duodenal intraepithelial lymphocytosis(DIL), lymphoid aggregates(LA) can help physicians construct a better clinical approach in patients with anaemia. **Objective:** The aim of this study is to analyze the association between anaemia and histological gastroduodenal lesions in patients with DIL and/or LA. **Material and methods:** We included in the study 100 patients and divided them in three groups: patients with IEL, patients with LA and the control group. We excluded patients with histopathological findings of gastric cancer. We collected data from medical records and histopathological reports. **Results :** The mean age in the control group was 62.86 years with no significant difference from the LA group (60,73 years). Patients with IEL had a mean age of 52.38 years, being statistically significant younger compared with the control group (p = 0.011). Regarding the gender distribution we observed that female patients were more frequent in the IEL group (p = 0.0009; OR = 4.339; 95%CI:1.862-10.44). There were no correlations between anaemia and lymphoid aggregates(p = 0.238; OR: 0.5357; 95%CI: 0.2191-1.333) or HP infection (p = 0.646; OR:1.307; 95%CI: 0.5551-3.271). Anaemia was statistically significant associated with IEL (p = 0.036; OR =0.3867; 95%CI: 0.1748-0.8790). There was a strong association between anaemia and histopathological gastric findings such as glandular atrophy(p = 0.0005, OR= 5.333; 95%CI: 2.012-13.19) and intestinal metaplasia(p =0.008; OR= 3.115, 95%CI: 1.305-6.833). HP gastritis patients were not significantly linked to IEL (p = 0.810; OR = 0.7899; 95%CI: 0.2995-1.948) or with LA(p = 0.788, OR = 0.7917; 95%CI: 0.2919-2.421). The same results were acquired for patients with glandular atrophy or intestinal metaplasia(p >0.05). We obtained statistically significant association between IEL and LA (p= 0.046; OR = 0.2961; 95%CI: 0.1023-0.9284). **Conclusions:** This study revealed that IEL is frequently found in patients with anaemia and LA, but not in patients with HP infection. There is also a high association between anaemia and gastric atrophy or intestinal metaplasia, but not with other histopathological findings.

Keywords: anaemia, intraepithelial lymphocytosis, lymphoid aggregates, gastric atrophy

ADENOIDITIS IN PEDIATRIC PATIENTS

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Background: Adenoiditis is a common disease among children. The infection producing inflammation of adenoids is mainly of viral etiology, however can be also caused by some bacteria. The treatment is based on antibiotics, nasal decongestants and, in some cases, surgery. **Objective:** The purpose of this study was to analyze the incidence, clinical and therapeutic aspects of children with adenoiditis admitted at Pediatric Department of Mureș County Hospital in the last 5 years. **Material and methods:** This is a retrospective study based on the evaluation of medical files of 87 patients with adenoiditis that were admitted at Pediatric Department of Mureș County Hospital between 2017- 2021. All children had at least 2 days of hospital stay (we excluded the one day admissions), age was between 6 months and 18 years. **Results :** 87 cases were enrolled in our retrospective study: 45 males and 42 females. From all patients, 30% cases were with acute adenoiditis, 52% with chronic adenoiditis, 17% with subacute adenoiditis and 1% with adenoidectomy (the last case belongs to chronic adenoiditis group). The main symptoms at the time of admission were: fever, cough, nasal discharge and obstruction. Dysphagia was responsible for about 8% of cases. On examination, adenoid face, a very important feature, was described in 22% of all patients, red pharynx in 56% and hypertrophy adenoids in 47%. Reactive lymph nodes were described in about 45% of the cases. From laboratory point of view, we found: leukocytosis, increased C reactive protein, neutrophilia, and lymphocytosis in most cases, and anemia (10% of cases leading to a secondary diagnosis). More than 50% of the children received antibiotic treatment alongside with symptomatic medications as medical treatment. The most common complication was otitis media. **Conclusions:** Adenoiditis is a common disease among children between 1 and 14 years old. Signs and symptoms are very specific for this disease and it's hard to

be missed. Most of the patients are compliant to antibiotic and symptomatic treatment, whereas adenoidectomy was considered only in a minority of patients. Complications like otitis media, sinusitis, and chest infections are not negligible and should be promptly treated.

Keywords: Adenoiditis, Children, Otitis

IDENTIFYING THE DEGREE OF INFORMATION OF THE POPULATION REGARDING THE APPLICATION OF THE SUN PROTECTION FACTOR FOR THE PREVENTION OF SKIN CANCER

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Background: The skin forms the largest organ of the body, representing about 16% of a person's weight. Like any other organ in the body, the skin is subject to cancer. Today, skin cancer is the most common form of cancer, accounting for about 50% of all cancers reported annually, according to the American Cancer Society. Numerous incriminating risk factors for skin cancer have been identified. UV exposure is the main risk factor for skin melanoma. **Objective:** The objective of this study is to determine the degree of information of the population regarding the application of the sun protection factor for the prevention of skin cancer. **Material and methods:** A cross-sectional study was conducted using a questionnaire consisting of 17 questions. The application and completion of the questionnaires was carried out between July and September 2021 and a representative sample was targeted, with a number of 1251 participants, in order to obtain statistically significant data. The questionnaires were distributed online. **Results :** To the question "How do you protect yourself from solar radiation?" 51.6% chose the option "Apply SPF cream once a day", which is worrying, considering that the sun protection factor is applied every 2 hours, about 20 ml every 30 minutes before the beach, the chosen variant of a percentage of 34.1%. 48.60% of the participants never went to the dermatologist. Also, a total of 35.80% regularly check their moles on the body and 23.20% regularly go to the dermatologist to monitor suspicious lesions. 3.60% of the participants have atypical moles in their family history, which is why they go to the dermatologist frequently. **Conclusions:** Participants avoid going to the dermatologist and are not informed about the correct way to apply SPF.

Keywords: Skin cancer, SPF, Dermatologist

THE CORRELATION BETWEEN INFANT NUTRITION AND ALLERGY DEVELOPMENT

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Background: Infant nutrition plays an important role in the development of allergies over time, both breastfeeding and diversification being considered key factors. In last decades, the incidence of atopic diseases, such as food allergies, asthma or allergic rhinitis, has increased considerably. The etiology of atopic disease is still unknown, but most studies show that genetic factors are the most common. However, environmental factors, such as the diet of the infant, can have an important influence on the development of allergies. **Objective:** Indentifying the correlation between duration of breastfeeding/ feeding the infant cow`s milk in the first year of life and the development of asthma, allergic rhinitis or food allergies. **Material and methods:** Prospective observational study conducted by applying a questionnaire. The questions included mainly the following topics: infant`s personal medical history, family medical history, duration of breastfeeding, timing of introduction of complementary foods and cow`s milk. **Results :** From a total of 185 study participants, coming from both rural and urban areas, 12% did not breastfeed the child and 28% breastfed for less than 6 months.17% of the participants fed the infant cow`s milk in the first year of life and 83% did not.There is a statistically insignificant correlation between breastfeeding less than 6 month as a risk factor and asthma/allergic rhinitis (p=0,38) or food allergies (p=0,41). Also, there is no correlation between cow's milk consumtion in the first year of life as risk factor and food allergies (p=0,18). **Conclusions:** Although breastfeeding plays an important role in the infant's development due to its important immunological component, in this study the protective role in the development of allergies, such as asthma, allergic rhinitis and food allergies, has not been demonstrated.

Keywords: breastfeeding, asthma, allergic rhinitis, food allergies

THE EFFECT OF AN ISOCALORIC, INDIVIDUALIZED LOW-FAT VERSUS LOW-CARB DIET ON COGNITIVE FUNCTION IN RELATION WITH DEPRESSION IN OVERWEIGHT/OBESE PATIENTS WITH TYPE 2 DIABETES.

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Background: Cognitive impairment and depression are frequently associated with type 2 diabetes and obesity. There is an ongoing debate whether in isocaloric conditions low fat or low-carb diets are more beneficial for the overall health of the patient. **Objective:** The aim of this study was to investigate the effect of two isocaloric diets, a low-fat versus a low-carb diet, in overweight/obese patients with type 2 diabetes on cognitive function in relation to depression. **Material and methods:** The study included 48 overweight and obese patients with type 2 diabetes mellitus. They were randomly assigned to 3 groups and were allocated to follow for 3 months an individualized, -700 Kcal diet, either low-fat or low-carb, or to continue the same diet as before. Weight, height, abdominal circumference, blood pressure and pulse were measured before intervention and after 3 months. A mini mental state exam (MMSE) was also performed before and after the diet. The simplified Beck Depression Inventory (BDI) was also performed. The data were analyzed with the help of SPSS program using nonparametric paired sample, and independent t test. **Results :** Weight, and abdominal circumference improved with low carb, but not with low fat diet. However, there was a more robust improvement of MMSE in the low-fat diet group in comparison to the other two groups. According to the BDI, 48% of the patients had mild depression. The extent of the depression in neither of the groups did correlate with the MMSE at baseline, however it inversely correlated with the MMSE improvement in the low-carb diet group ($p = .004$, $r = -0.713$). **Conclusions:** Short and mild dietary intervention has low impact on MMSE, but low-fat diet was more beneficial in this respect in our study. Depression obstructed MMSE improvement in low carb diet.

Keywords: obesity, diet, cognitive functions, depression

RETROSPECTIVE STUDY ON THE ASSESSMENT OF PREDISPOSING FACTORS IN DIABETIC KETOACIDOSIS (DKA) BEFORE AND DURING THE SARS-COV-2 PANDEMIC PERIOD

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Background: Diabetes mellitus has a number of both acute and chronic complications. One of the most common acute complications is diabetic ketoacidosis (DKA). It can be triggered by various predisposing factors, like infections. The evolution of diabetes was precipitated by the SARS-CoV-2 pandemic which has induced the appearance/aggravation of the complications of diabetes. **Objective:** Comparative study regarding the precipitating factors in the onset of diabetic ketoacidosis (DKA) in patients known with DM and in patients with newly diagnosed DM, in pre-pandemic and in the pandemic period. **Material and methods:** We have made a retrospective study on 175 inpatients with diabetic ketoacidosis hospitalized at Emergency County Hospital Targu Mures Department of Diabetes, nutrition and metabolic diseases during pre-pandemic period (2018-2019) and pandemic period (2020-2021). The clinical and anamnestic data were collected from inpatients' files with permission of Ethical Committee. The obtained information were statistically processed using the R Project for Statistical Computing. The patients were divided in two groups: group 1 (79 patients admitted in pre-pandemic period, in 2018-2019) and group 2 (96 patients admitted in pandemic period, in 2020-2021). We have studied the prevalence of predisposing factors involved in the DKA incidence: infections, alcohol consumption, pancreatitis, surgical interventions, treatment cessation and unknown causes. **Results :** The number of admitted DKA cases in the SARS-CoV-2 pandemic period was higher (54.86%) than the previous period (45.14%). From group 1, 79.75% patients were known with DM and from group 2, 78.13%. The results have shown a greater contribution of some predisposing factors of DKA in the SARS-CoV-2 pandemic period in comparation with the pre-pandemic period: infections, treatment cessation, alcohol consumption. This could be explained by the delay of periodic medical evaluation based on the isolation/auto-isolation for avoidance of exposure to SARS-CoV-2 infection. Although we observed a higher frequency of favorable factors, we found no significant difference in frequency distribution of

infections (55.21% vs 49.37%, two-proportions z-test, p =0.441); discontinuation of treatment (19.79% vs 16.46% , two-proportions z-test, p =0.570); alcoholism(9.38% vs 8.86%, two-proportions z-test, p =0.907) in the pandemic period compared to the pre-pandemic period. **Conclusions:** The study has shown an increase in certain predisposing factors of DKA in the pandemic period, especially of infections, treatment cessation and alcohol consumption in comparison to pre-pandemic period.

Keywords: diabetes mellitus, ketoacidosis, infections, SARS-CoV-2

BURNOUT SYNDROME - A SEVERE CONCERN ARISING IN MODERN SOCIETY

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Background: Burnout syndrome is today a widely researched topic. As it was described for the first time in 1967, being burned out means being constantly exhausted as a result of work's excessive demands. Later on, it was described as a syndrome consisting of emotional exhaustion, depersonalization and reduced accomplishment as a response to chronic stress at the workplace. Burnout has been studied in a variety of occupations. Over time, it has been observed that this phenomenon is present even in the academic environment, especially in undergraduate students in medical sciences. **Objective:** This study aims to evaluate different socio-demographic factors and correlate them with the three subdimensions of burnout syndrome: emotional exhaustion (EE), depersonalization (DP) and reduced personal accomplishment (PA). **Material and methods:** To assess the objective of this study, the data was collected through an online questionnaire distributed using Google Forms. The survey consisted of 34 questions of which 15 are included in the MBI-SS (Maslach Burnout Inventory - Student survey) **Results :** Out of a total of 71 answers, 78.87% are female, 21.13 are male, all aged between 19 and 28 years.(*M*=24.56). We found out that regarding emotional exhaustion, there is a statistically significant result (p=0.045) between men (M=16.67) and women (M=20.38), thus highlighting that women feel the exhaustion in a strong manner than men. Another association regarding emotional exhaustion was found when the students were asked if they feel more stressed during exams. (p=0.004). 94,2% of them with a high EE score declared that they feel more stressed during exams compared with 68.4% who had a low EE score. 31.4% of the students with a high score of cynicism complained about the heavy workload, compared with the other 5% with the same cynicism score. (p=0.045) **Conclusions:** According to the results, we can emphasize that burnout has an influence on the student's quality of life and efforts should be increased in order to reduce the prevalence of the syndrome among medical students, as well as its negative impact.

Keywords: burnout syndrome, emotional exhaustion, academic environment

OMEGA 3 FATTY ACIDS AND CARDIOVASCULAR PREVENTION

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Background: Cardiovascular disease is currently the leading cause of death worldwide. Lack of education and access to information or vice versa, the multitude of sources with low credibility, have made people miss realistic and accurate information about cardiovascular risk factors and the importance of cardiovascular prevention and how accessible it is. Age and area of origin may also be obstacles to accurate information. The role of omega 3 fatty acids in reducing cardiovascular risk has long been studied. **Objective:** By answering questions related to the opinion about food supplements, their place in a healthy lifestyle, the monthly amount allocated to them and data such as age, level of physical activity, level of education and area of origin, we can observe the place of prevention in people's lives. **Material and methods:** The study included 496 volunteers who completed a questionnaire consisting of 26 questions with simple or multiple-choice answers regarding this subject. Data processing was performed using SPSS (Statistical Package for the Social Sciences). **Results :** After analyzing the answers, we found that 65% of respondents say they have a healthy lifestyle compared to 35% who do not. With very similar percentages, it is observed that 60% of volunteers consume food supplements and 40% do not. Applying the chi square test, we obtain a p = 0.001 which indicates a significant association between the source environment and the supplementation with Omega 3. We also found a p = 0.001 indicating an association between the level of physical activity and the consumption of supplements. We obtained the same value of p for the relationship

between age and opinion about food supplements, but also for the association between those who claim to have a healthy lifestyle and omega 3 consumption. **Conclusions:** Cardiovascular disease can be prevented by monitoring risk factors. Lifestyle changes such as diet, physical activity, smoking cessation, Omega 3 fatty acids are the most effective and affordable ways in which patients can reduce their cardiovascular risk and also prevent cardiovascular events. For respondents, factors such as age, background and education are obstacles to informing about preventive measures.

Keywords: Omega 3, prevention, cardiovascular disease

THE IMPACT OF HELICOBACTER PYLORI ON CHILD'S BIOLOGICAL PARAMETERS

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Background: Helicobacter pylori (HP) is a gram-negative, microaerophilic, spiral bacteria that usually develops in the stomach. Colonization with H. Pylori is commonly acquired during childhood and induces chronic gastritis for all infected persons if left untreated. HP was recently associated with extraintestinal disorders as a result of low degree persistent systemic inflammation such as iron deficiency anemia, chronic idiopathic thrombocytopenia, growth retard. **Objective:** The aim of the study was to assess the impact of HP on child's hematological parameters. **Material and methods:** We analyzed the medical records of 27 pediatric patients diagnosed with HP chronic gastritis and with non-HP chronic gastritis between 2017 and 2021. Thus, we assessed the following parameters: age, sex, originating area, family and personal history, symptoms, hemoglobin, erythrocytes, haematocrit, mean corpuscular volume (MCV), platelets, leukocytes, neutrophils and iron level. **Results :** We examined the medical charts of 27 patients and we obtained the following results. Thus, 20 patients were diagnosed with chronic gastritis caused by HP, while 7 were diagnosed with non-HP chronic gastritis. The gender distribution was similar. We noticed that 19 patients originated from rural areas, while 8 patients lived in urban areas. In terms of biological parameters,in the HP chronic gastritis group, our study showed a mean hemoglobin level of 14,10 g/dL, a mean haematocrit level of 41,30 %, a mean MCV level of 70,81 x fL, a mean thrombocyte level of 311,52 x 10^3/ µL, a mean leukocyte level of 8,89 x 10^3/ µL and a mean neutrophil count of 8,33 x 10^3/ µL. In the control group the results showed a mean hemoglobin level of 13,24 g/dL, a mean haematocrit level of 39,37 %, a mean MCV level of 80,74x fL, a mean thrombocyte level of 351,42 x 10^3/ µL, a mean leukocyte level of 9,94 x 10^3/ µL and a mean of neutrophil count of 24,64 x 10^3/ µL. Except the neuthrophil count that was higher in the control group, there were no remarkable differences between the two groups.We found a significant negative correlation between neutrophil count and iron level (p=0.015). **Conclusions:** HP is more frequently encountered in children originating from rural areas indicating that rural area might represent a risk factor for HP infection during childhood. This study revealed a significant negative correlation between neutrophil count and iron level.

Keywords: Helicobacter Pylori, Chronic Gastritis, Biological Parameters, Child

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CHRONIC KIDNEY DISEASE CONCURRENT WITH CHRONIC HEART FAILURE: CHALLENGES IN UNDERSTANDING THE BIDIRECTIONAL RELATIONSHIP BETWEEN THEM.

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Background: The incidence and prevalence of congestive heart failure (CHF) is increasing, and due to the aging of the population, its growth, and improved survival rates after diagnosis, the number of people living with heart failure is rising, creating a massive burden to the healthcare system. CHF is always associated with one or more comorbidities, chronic kidney disease (CKD) being one of the most prevalent and severe regarding the outcomes of these patients because the presence of one condition appears to accelerate the progression of the other. **Objective:** This study aims to analyze the impact of CHF on patients' renal function, describe the interrelation between CHF and CKD, and the prevalence of risk factors and comorbidities with respect to distinct demographic, clinical, and paraclinical parameters. **Material and methods:** The study is retrospective, observational, comprising 557 patients, median age 74±11.15 years, admitted at the Internal Medicine II-Cardiology Clinic, Emergency County Hospital Târgu-Mureș, between January 1st 2019-October 31st 2020, presenting heart failure NYHA class

II-IV and other comorbidities. Patients were grouped according to criteria such as sex, age, left ventricular ejection fraction (LVEF), and estimated glomerular filtration rate (eGFR). **Results :** We observed that 51.35% of the patients are women, and they are significantly older than men (p<0.001). Regardless of age and sex, the majority of the patients (54.4%) are in NYHA class III. Concerning LVEF, most of the patients have preserved EF (41.93%); amongst them, 60.34% are women. 45.6% of the patients have comorbid CKD, more than half of them (62.6%) being women (p<0.001). There is a strong association between CHF and CKD (p<0.001), as the prevalence of CKD increases with functional cardiac deterioration (33.56% for NYHA class II, 45.54% for NYHA class III, and 62.04% for NYHA class IV). The median eGFR value (ml/min/1.73m2) varies from 58.41 in women to 72.78 in men and ranges from 70.43 to 65.31 and 54.22 for NYHA class II, III, and IV respectively. Women and patients in NYHA class IV have the lowest eGFR (p<0.001). **Conclusions:** CKD is a serious condition that affects patients with CHF, as it is present in nearly half of the subjects admitted with heart failure. The decline in heart function is associated with impaired renal function, CKD being more prevalent in NYHA class IV patients. Women are more susceptible than men to have concurrent CHF and CKD and present more often than men heart failure with preserved EF.

Keywords: heart failure, chronic kidney disease, ejection fraction

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EMOTIONAL PROCESSING IN GENERALIZED ANXIETY DISORDER

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Background: Emotion is a combination of the process of mental evaluation and the underlying responses to that process. Biopsychosocial factors and genetic vulnerability play an important role in the emotional processing of various situations, including events of stress and trauma, which can lead to the development of clinical symptoms specific to generalized anxiety. Emotional processing is the modification of the structures associated with memory which is at the origin of emotions. Perceived new information, with affective and cognitive associations, must be integrated into the structure of memory for an emotional change to occur. **Objective:** The main goal of this study was to investigate emotional regulation as a process involved in the pathogenesis of generalized anxiety disorder, as well as, the psycho-emotional mechanisms that determine the persistence of these disorders. **Material and methods:** The research sample consisted of 30 patients admitted to the psychiatric clinic in the target group and 30 people without psychiatric pathology representing the control group. Participants completed psychological questionnaires to assess the degree of generalized anxiety and individual emotional processing. Four psychometric tests were used in this study - Acceptance and Action Questionnaire-II (AAQ-II), Beck Anxiety Inventory (BAI), The Penn State Worry Questionnaire (PSWQ) and Leahy Anxiety Scale (SAL). **Results :** Both groups presented a similar gender distribution consisting of 10 males (33%) and 20 females (66%), with an average age of 48 years. By assessing cognitive symptoms associated with anxiety with Beck Anxiety Inventori (BAI) we found that 100% of the case group had scores above 30 associated with "severe anxiety", compared to the control group in which 40% of people with "minimum anxiety" , 30% with "mild anxiety" and 30% with "moderate anxiety". The control group contained no individuals falling under the "severe anxiety". **Conclusions:** The obtained results suggest that people with high scores on anxiety assessment questionnaires had difficulty processing emotions compared to those in the control group who had lower values. The study confirms the major role of emotional processing in anxiety.

Keywords: generalized anxiety disorder, emotional processing, mental health

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MEDICO-LEGAL ASPECTS AND CONSIDERATIONS IN FALLS FROM HEIGHTS

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Background: Falling from heights is the abrupt and untimely transition of the body from one plane of support to a lower plane, under the influence of gravity. Accidental, suicide, murder and homicide dissimulation are examples different types of falls from heights. **Objective:** The goal was to assess the unique characteristics of falling from heights by analyzing and interpreting the various Forensic aspects of traumatic injuries and external factors that predispose to falls from heights by highlighting the evolution and characteristics of 15 analyzed cases from Targu-Mures over a 2 year span (2016-2017). **Material and methods:** I will present the evolution of falls from heights by assessing the main characteristics met in cases occurring in Mures County, using statistical investigation such as

graphic representations and descriptive statistics. The information was gathered from the autopsy reports from the archives of the Institute of Forensic Medicine Targu Mures over a two-year period, from January 2016 to December 2017. A total of 131 cases over a 2-year period were collected, out of which 15 cases of falling from heights were found. Following the research, we focused on demographic data, juridical aspects, toxicological investigations, and the morphology of traumatic injuries. **Results :** Out of 15 analyzed cases, out of which 10 were males and 5 females, the average age of those who fell from heights is 49 years old. 9 cases were juridically classified as accidental, and 6 as suicides, the latter discovered in urban areas. 21% for cranio-cerebral trauma, followed by thoracic, abdominal and spinal with 18% each. The most common cerebral injuries are subarachnoid hemorrhage 28%, contusions24%. The most common thoracic injuries are hemothorax 27%, ruptures/contusions 15% each, and the abdominal injuries are represented by hepatic ruptures 30%. Cranial fractures and pelvic injuries represent 21% out of the total fractures. External injuries have a superficial, variable pattern, the most common being abrasions and ecchymosis 33% each. **Conclusions:** Falling from heights involves a complex mechanism which leads to the appearance of polymorphic injury patterns, involving cranio-cerebral traumas, thoracic, abdominal and pelvic trauma simultaneously. The external injuries are usually not consistent with the intensity of the internal ones. The studied lot was represented mostly by males, under the age of 60 years old, and most falls from heights were accidental. Suicide using these methods were also found, mostly in young people from urban areas.

Keywords: Falling from heights, Trauma, Suicide

EPIDEMIOLOGICAL CHARACTERISTICS OF CT SCAN INVESTIGATED PATIENTS WITH HEPATIC STEATOSIS

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Background: Hepatic steatosis is a condition that involves the accumulation of lipid compounds in the cytoplasm of hepatocytes as a result of exposure to a wide range of hormonal, toxic, and metabolic disruptors. Hepatic steatosis is classically presented in 2 distinct forms, depending on the pathogenesis of excess lipid deposition: alcoholic liver disease(ALD) and nonalcoholic fatty liver disease (NAFLD). Although alcoholism is the leading etiological factor in ALD, NAFLD is expected to increase from about 25% currently to 33.5% in 2030 among adults, especially affecting diabetic and obese patients. **Objective:** The aim of this study is to highlight the epidemiological features of cases of hepatic steatosis diagnosed by CT investigation. **Material and methods:** Our retrospective study included 39 patients between 2020-2021, selected from the archive of the Radiology Clinic of Targu-Mures Emergency County Hospital. The patients included in the study diagnosed with hepatic steatosis were aged between 28 and 86 years. **Results :** From the 39 patients included in the study, 20 (51%) were male and 19 (49%) were female. Regarding the age distribution of patients, a number of 2 cases (5%) were identified in the age group 20 to 40 years, 14 cases between 40 to 60 years (36%), 21 cases (54%) between 60 to 80 years and 2 cases between 80 to 100 years (5%). From these patients, the highest percentage of patients diagnosed using CT scan with hepatic steatosis (51%) was in the age group between 60 and 80 years, more precisely 11 cases. Moreover, from this group of patients, 5 patients (13%) had also associated chronic liver infection with hepatitis B and C virus. **Conclusions:** According to our results, the most affected age group diagnosed with CT in this study was 60-80 years, associating most frequently comorbidities. Also, CT scan proved to be a useful tool for diagnosing hepatic steatosis.

Keywords: hepatic steatosis, CT scan, hepatitis

PERSONOLOGICAL FACTORS IN THE ONSET AND DYNAMICS OF EATING DISORDERS

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Background: Personality traits can be predisposing factors for various psychopathological episodes and condition both responsiveness to treatment and their evolution. In our country there are no recent studies regarding the personality of patients with eating disorders - approached from a dimensional perspective. **Objective:** The objective of this study is to distinguish some associations between personality dimensions and clinical and evolutionary particularities of eating disorders. **Material and methods:** The study is analytical and descriptive and

includes 44 subjects diagnosed with an eating disorder of which only 39 met the inclusion criteria of no tendency to highly distorted responses in the assessment of personality. Demographic and clinical picture data were obtained through a Google Forms questionnaire and the personality of the subjects was evaluated from a dimensional point of view using the DECAS scale. **Results :** Extroversion (69%) and emotional stability (72%) are low in most subjects with eating disorder. The findings suggest a positive association between low values of conscientiousness and bulimia nervosa, the level of conscientiousness being decreased in 83% of them compared to 31% of the whole analyzed group. The agreeableness is also lower among them (63%) compared to 36% emphasized in the whole lot. A favorable evolution of eating disorders is associated with increased extraversion (80%), increased agreeableness (71%) and increased emotional stability (100%). Increased extraversion was also associated with minimal impairment of psychosocial functionality, 80% reported no disturbance in this regard, and a 100% share sought specialized treatment. Among those with increased extroversion (80%) increased emotional stability (100%) there was no reported evidence of worsening of the somatic condition in the context of eating disorders. **Conclusions:** Personality dimensions can be predictive factors concerning the course of the disease and the functioning in life roles of patients with eating disorder. In this regard, personality dimensions such as extroversion, conscientiousness and emotional stability have the most important role.

Keywords: eating disorder, personality dimensions, bulimia nervosa

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PRECANCEROUS GASTRIC LESIONS- THE RELEVANCE OF SYMPTOMS, DRUG CONSUMPTION AND ENDOSCOPIC FINDINGS

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Background: The histopathological evolution of gastric cancer may be briefly summarised in the Correa cascade. Two of the most critical stages of this cascade are atrophic gastritis (AG) and intestinal metaplasia (IM). **Objective:** We aim to assess the connection established between the two investigated premalignant lesions and some endoscopic findings, as well as the usage of some very frequently prescribed drugs. **Material and methods:** We performed a retrospective case-control study on a series of patients who underwent upper gastrointestinal endoscopy (UGE) between 2017 and 2021. The data were collected from 150 patients suffering from AG/IM and 203 with IM. The control group consists of 205 patients without AG/IM or other histological modifications. The statistical test performed was Chi-square. **Results :** Our findings revealed no connection between AG and antral erythema (p=0,105; OR=0,630; 95% IC: 0,372-1,065), gastric corpus erythema (p=0,377;OR=0,798; 95% CI: 0,483- 1,318), antral erosions(p=0,330; OR=0,792;95% CI: 0,495-1,267), or corporeal erosions (p=0,659; OR=0,769; 95% CI: 0,314-1,882). However, strong correlations were found between white duodenal deposits in duodenum and AG (p=0,005;OR=2,072; 95% CI: 1,262- 3,402), or AG/IM in gastric biopsies (p=0,007; OR=1,905;95% CI: 1,195-3,037). A strong negative association was found between Helicobacter Pylori (HP) presence in gastric biopsies and both IM/AG (p=0,000001; OR=0,371;95% CI: 0,247-0,557) and AG (p=0,0001; OR=0,283; 95% CI: 0,178-0,449). No correlations were found with epigastric discomfort in any groups: AG (p=0,193 OR=0,744 ;95% CI: 0,485-1,142), AG/IM (p=0,134; OR=0,737; 95% CI: 0,497-1,093). Weight loss was more frequently reported in AG patients (p=0,056; OR=1,793; 95% CI: 1,014-3,173). The usage of non-steroidal anti-Inflammatory drugs (NSAIDS) has no correlation with AG (p=0,573; OR=0,837; 95% CI: 0,478-1,467) or AG/IM (p=0,602; OR=0,853; 95% CI: 0,511-1,425). Proton pump inhibitors (PPI) therapy was not correlated with AG/IM (p=0,416; OR=1,187; 95% CI: 0,796-1,772),. The consumption of angiotensin-converting enzyme inhibitors (ACEI) was associated with both lesions: AG (p=0,04; OR=1,927; 95% CI: 1,233-3,012) and IM/AG (p=0,001; OR=2,036; 95% CI: 1,346-3,080). **Conclusions:** AG and IM seem to be associated with white duodenal deposits in gastric biopsies, but not with gastric erythema or erosions. Only weight loss is a predictor for AG/IM histology. Chronic ACEI consumption seems more frequent in patients with AG/IM, while PPI and NSAIDS usage is not associated with AG/IM whatsoever.

Keywords: Gastric atrophy, Intestinal metaplasia, Endoscopy, Weight loss

HEPATIC STEATOSIS – ENDOSCOPIC AND CLINICAL FINDINGS

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Background: Hepatic steatosis (HS) is defined as intrahepatic fat of at least 5% of liver weight. HS may associate alcohol consumption or not Nonalcoholic fatty liver disease (NAFLD). NAFLD patients can develop nonalcoholic steatohepatitis (NASH), an aggressive form of fatty liver disease, marked by liver inflammation and which may progress to advanced scarring (cirrhosis) and liver failure. **Objective:** The aim of this study is to analyze the association between a number of clinical and upper gastrointestinal endoscopy (UGE) findings and HS. **Material and methods:** We performed a retrospective case-control study on a series of patients who underwent UGE between 2017 and 2021. The data were collected from a total of 258 patients: 86 patients suffering from HS and 172 free of HS representing the control group. Histopathological reports and medical records were the sources of our data. **Results :** There was no significant difference between the mean age in the HS group (64.26) and control group(61.08). Gender does not play a significant role either (p=0.223). We found a strong correlation between HS and high blood pressure (HBP) (p = 0.001; OR = 2.615; 95%CI: 1.488-4.593) and osteoarticular diseases (p < 0.001; OR = 4.314; 95%CI: 2.250-8.273) thus both representing risk factors for HS. However there were no correlations between diabetes mellitus and HS (p = 0.191; OR: 1.564; 95%CI: 0.840-2.910) in our study even though it is a proven risk factor in larger studies. Regarding medication, we found a link between low-dose aspirin treatment and HS (p = 0.013; OR: 2.143; 95%CI: 1.192-3.852), but there was no significant link found between patients treated with non-steroidal anti-inflammatory drugs (NSAIDs) and HS (p<0.05). Angiotensin-converting enzyme inhibitors (ACEI) treatment was also linked to HS(p = 0.052; OR: 1.743; 95%CI: 1.019-2.981). UGE results show a correlation between gastric erythema (GE) and HS(p = 0.004; OR: 2.526; 95%CI: 1.377-4.636) but no link between gastric ulcers and HS(p>0.05). We could also find no significant link between Helicobacter pylori (HP) active infection and HS (p = 0.080; OR: 1.691; 95%CI: .966-2.958). **Conclusions:** In consecutive UGE cases, HBP and osteoarticular diseases, but not diabetes, are more frequent in patients with HS in comparison to those with no liver disease. Consumption of aspirin and ACEI seems to be more frequent in patients with HS evaluated on UGE. Gastric erythema is the only UGE finding that may be correlated with HS, but there is no association with HP active infection in sample biopsies.

Keywords: HEPATIC STEATOSIS, UPPER GASTROINTESTINAL ENDOSCOPY, ASPIRIN, HIGH BLOOD PRESSURE

THE INCIDENCE OF THE NEW TECHNOLOGIES IN THE MANAGEMENT OF TYPE 1 DIABETES AND THEIR IMPACT ON THE PATIENTS

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Background: Technological advances of the last decade in type 1 diabetes management area offer a wide variety of glucose monitoring systems, insulin delivery devices and health apps targeting different needs of the patients. **Objective:** The purpose of this study is to determine the incidence of use of the new technology avalaible in the management of type 1 diabetes in Romania and to observe the patients' opinion about their options. **Material and methods:** This study includes 376 patients with type 1 diabetes who filled out an online survey using Google Forms. The survey consisted of 37 questions and the data was annalized using Microsoft Office Excel. **Results :** The results show that 58,2% of the patients use a pen for insulin delivery, 33,5% use a wired insulin pump and 6.1% a tubless pump(77,2% of the pumps were offered by CNAS). For glucose monitoring 76,3% of the participants chose a continuos glucose monitor(CGM) from which 60.4 % were provided by CNAS; 42% are using a simple glucose metter as an only option or as an adjuvant to their CGMs. 71.8% of the participants think the best scheme to obtain euglycemia is a CGM with an insulin pump and 60,4% would prefer to use a CGM with a tubless pump against the other options. The ones who do not use a device have the following reasons: 76,3% financial issues, 21.7% are on waiting list for a compensated device and 23,1% because of mental health issues: being attached to a device gives them anxiety. Additionaly, 72,4% said they are using their smartphone, 16,7% use a smartwatch while 10,8% admitted to not use them. The most preffered phone apps categories are: 34,9% glucose

sharing , 24,9% bloodsugars jurnals, 24,7% nutrition. 15,3% never used an app. As a result of using any of the new technological devices 83,4% of the patients feel safer now,58,6% are more physically active, 66,7% said their HbA1c lowered and 81,2 % agreed that their life quality has improved. **Conclusions:** The new diabetes technology is becoming more accessible especially after the Romanian Diabetes Program started to provide them. While the diasease burden is still high, these advances have improved both glycemic levels and quality of life of the patients.

Keywords: type 1 diabetes, insulin pump, CGM, HbA1c

MANAGEMENT OF UPPER VARICEAL BLEEDING DURING THE COVID-19 PERIOD

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Background: Since its outbreak in 2019, starting off as an epidemic in the region known as Wuhan, the infamous virus Covid-19 quickly became a pandemic, affecting everyone worldwide. Highly transmissible and pathogenic, it uses the ACE2 (angiotensin converting enzyme 2) receptor just like the first SARS-CoV to spread the infection throughout the body starting preferentially from the respiratory tract, labelling itself as highly threatening to public safety. **Objective:** The focus of this study is to asses if the outbreak of the SARS-CoV 2 virus had any significant impact on the lives of patients and specifically those with upper variceal bleeding in the health care system. **Material and methods:** We made a retrospective study in the period 1.01.2019-31.12.2020. We included 96 patients with upper variceal bleeding (51 from 2019 and 45 from 2020) which necessitated endoscopic hemostasis, and we compared the patients from (1.01.2019-31.12.2019) with the patients from 2020 (1.01.2020-31.12.2020). **Results :** There were no significant statistical differences between the two groups regarding sex, their alcoholic cirrhosis status or the terlipressin treatment, 76 parients (79,2%) had alcoholic cirrhosis while 20 (20,8%) had other etiologies, 62 (64,6%) have been given terlipressin treatment and 34 (35,4%) have not received terlipressin, however when analyzing the mortality rate, 17 patients (17,7%) died during the 2019 year while in 2020 we can see a reduction at 7 patients (7,3%), with an Odds Ratio (OR) of 0,368 95% Confidence Interval (0,136-0,996), suggesting that the 2020 year could have offered a higher degree of protection than 2019. Interestingly, out of the 96 patients, three of them have been diagnosed with Covid-19, but none of them have died because of it. **Conclusions:** Upper variceal bleeding is a serious and life threatening condition that should not have its treatment course delayed, even during times such as the Covid-19 pandemic, as it could result in irreversible damage and even death.

Keywords: Covid-19, upper variceal bleeding, terlipressin

CLINICAL - SURGICAL

THE INFLUENCE OF OVERWEIGHT AND OBESITY ON LABOR AND DELIVERY

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Background: In recent years we observed a rise in obesity and thus obesity in young fertile women who will have pregnancies. With this, comes different changes in type of birth trends, whether delivery is vaginal or cesarean, the type of labor, spontaneous or induced, the use of oxytocin during labor. **Objective:** To assess the situation regarding obesity and the complications related to labor and delivery in the clinic of Obstetrics and Gynecology 1 of Targu Mures. **Material and methods:** We collected all births from the clinic from 1st of January 2021 to 31st December 2021 and calculated de BMI for each patient that presented the data(n=1510). Exclusion criteria: twin pregnancies, scarred uterus, premature births, in utero death and we remained with 1063 patients in 3 groups: Normal weight, overweight and obese We assessed the parity, type of labor, use of oxytocin, APGAR score, macrosomia, cesarean section, episiotomy, and hospitalization days. **Results :** On our 1063 database after exclusion, we had 212 normal weight patients (control group), 473 overweight and 378 obese patients. Compared to normal weight (n=212) overweight women (IMC= 25-29.99) were more likely to have induction of labor (OR 1.034,p=0.905,p>0.05,95% CI: 0.59-1.76), fetal macrosomia (>4000g) (OR 2.072, p=0.04,p<0.05,95% CI: 1.02-4.02), and cesarean section (OR 1.5,p=0.08,p>0.05, 95% CI: 0.94-2.39). Obese women (IMC>=30) were more likely to require induction of labor (OR 1.1,p=0.72.p>0.05, 95%CI:0.62-1.95), oxytocin use during labor (OR 1.04,p=0.8, p>0.05 95%CI:0.7-1.5), having a APGAR<7 (OR1.125, p=0.9,p>0.05,95%CI: 0.1-12), fetal macrosomia (OR 3.67,p=0.001,p<0.05, 95%CI: 1.83-7.35) and cesarean section(OR 2.27,p=0.001, p<0.05, 95%CI: 1.42-1.87). Compared to overweight women, obese women were more likely for induction of labor (OR 1.07, p=0.7, p>0.05, 95%CI: 0.68-1.68), use of oxytocin during labor (OR 1.05,p=0.7, p>0.05, 95%CI: 0.77-1.43), APGAR <7(OR 1.2, p=0.8, p>0.05, 95%CI: 0.17-8.95), fetal macrosomia (OR 1.77,p=0.007, p<0.05, 95%CI: 1.16-2.69), cesarean section (OR1.51, p=0.01, p<0.05, 95%CI:1.08-2.11) and hospitalization over 13 days(OR1.19, p=0.6, p>0.05, 95%CI: 0.60-2.34) . **Conclusions:** The status of overweight and obesity being in continuous increase poses new challenges of the obstetric field. This study showed that there is an increased risk of obstetric complications in overweight pregnant population also in obese pregnant population, with higher odds in obese than in overweight. Patients should be informed of this situation ideally before and during pregnancy and measures should be taken.

Keywords: obesity, delivery, labor, macrosomia

MANAGEMENT OF SEVERE AORTIC STENOSIS: SURGICAL VALVE REPLACEMENT VERSUS TRANSCATHETER VALVE IMPLANTATION

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Background: Aortic stenosis is defined as a narrowing of the aortic valve, obstructing blood flow from the left ventricle to the ascending aorta during systole. A reduction in the aortic valve area (AVA) to a value less than or equal to 1 cm^2 yields the greatest degree of severity, carrying a significant hemodynamic burden. This in turn leads to the development of left ventricular hypertrophy (LVH) and, with further decompensation, to the occurrence of heart failure. **Objective:** The aim of this study is to compare surgical aortic valve replacement (SAVR) with transcatheter aortic valve implantation (TAVI), by analysing the postoperative outcomes in the management of severe aortic stenosis. **Material and methods:** A retrospective study was conducted on 244 patients who underwent treatment for severe aortic stenosis at IuBCVT Târgu-Mures during a period of 4 years (2018-2021). 131 patients were referred for open-heart surgery whereas 113 were referred for percutaneous intervention. A further subcategorization was made for the SAVR group based on whether a mechanical or a biological valve was implanted; 85 and 46 patients respectively. Pre- and postoperative echocardiography was performed in order to assess the ejection fraction values and the degree of mitral insufficiency concomitant with the aortic stenosis. **Results :** The postoperative echocardiography findings have highlighted an increase in the ejection fraction in a greater percentage of TAVI patients as opposed to the SAVR patients. Conversely, the ejection fraction values of the biological valve SAVR subcategory displayed an increment in a mildly higher percentage compared to the TAVI category. A striking decrease in the degree of mitral insufficiency has been registered in the SAVR group compared to the TAVI group. **Conclusions:** Surgical replacement and transcatheter implantation both entail

unique advantages of functionality in certain facets, whilst presenting disadvantages in other aspects postoperatively. The most suitable method of intervention should be selected by a tailored consideration of the individual based on the anatomical, clinical, and procedural variables.

Keywords: severe aortic stenosis, SAVR, TAVI

SURGICAL TREATMENT IN TRANSVERSE COLON CANCER – EARLY POSTOPERATIVE RESULTS

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Background: Colorectal cancer stands, after lung cancer, as the second leading cause of neoplastic mortality in our country. Tumors located in the transverse colon represent 10% of all colorectal malignancies. Diagnosis is often delayed and patients are presenting with complications (obstruction, perforation) in 30 up to 50% of cases. **Objective:** The aim of this study was to analyze the early postoperative outcome after transverse colon cancer (TCC) surgery **Material and methods:** We performed a retrospective analysis on 89 consecutive cases of patients admitted and surgically treated for transverse colon cancer, in the 1st Surgical Department of the County Emergency Clinical Hospital of Târgu Mureș, from January 2017 to December 2021. Both emergency and elective cases were included. Data were collected on the demographic and clinical biological parameters of the patients and the results of the anatomopathological evaluation of the tumors and, using statistical analysis, we tried to establish correlations between this factors and the immediate postoperative evolution. **Results :** From the 89 patients registered with TCC, 65.2% were males and 34.8% females with an average of 67,37 years of age. In 35 cases (39.32%) they were operated in emergency conditions and for 54 of them (60.67%) an elective surgery was performed. The colon tumor was located at the hepatic angle in 39 cases (43.8%), in the transverse colon for 25 patients (28.1%), at the splenic angle in 22 cases (24.4%) and for 3 patients (3,4%), the lesion was extended beyond the transverse colon limits. The curative surgical treatment was represented by: extended right hemicolectomy (55.1%), segmental resection of the transverse colon (16.9%), extended left hemicolectomy (11.2%) of the cases and subtotal colectomy (5.6 %). There were performed both manual and mechanical anastomosis. For 7 patients (7.8%) an internal or external derivation technique was the only palliative surgery that could be performed. Early postoperative morbidity was 4.5%. Anastomotic leak was reported in 3,4%. **Conclusions:** Due to delayed diagnosis, patients with transverse colon cancer have a late addressability, often in emergency conditions, with acute complications, making the surgical treatment a real challenge. However, for most of the patients, good postoperative results were achieved. In some cases, unfortunately, palliative treatment represented the only available choice.

Keywords: transverse colon cancer, surgical treatment, anastomotic leak

NORMAL ANATOMY AND ANATOMICAL VARIATIONS IN PELVIC SURGERY

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Background: The human anatomy is not even close to being an exact science, as many anatomical variations have been reported, especially regarding the vascular system. Many of these modifications are congenital and seem to be left unnoticed until medical procedures are performed. In the oncological surgical field, there have been frequently described anatomical abnormalities which may lead to intraoperative or postoperative complications. **Objective:** We want to highlight the importance of distinguishing between normal anatomy and anatomical variations found during pelvic surgery. By recognizing the anatomical variation during surgery, many intraoperative complications, especially bleeding, might be avoided. **Material and methods:** We have reviewed several case files of female patients admitted in the First Obstetrics and Gynecology Clinic of Târgu-Mureș. In this presentation, we wish to illustrate normal pelvic anatomical elements as well as anatomical aberrations detected in laparotomies or laparoscopies performed on the aforementioned patients. **Results :** The most frequent anatomical abnormalities are the vascular ones, mostly venous. However, urinary or genital tract malformations could be discovered, too. Meticulous knowledge of pelvic anatomy, careful dissection of the surgical field and the surgeon's

precaution and awareness of these possible anatomical variations are mandatory during gynecological oncologic surgery. **Conclusions:** To sum up, any pelvic surgeon needs to be aware of the existence of possible anatomical aberrations discovered intraoperatively. Therefore, proper analysis of the imaging investigations performed preoperatively could identify these anatomical anomalies, helping the surgeon to avoid unintentional injuries of pelvic or abdominal organs.

Keywords: anatomical variations, pelvic surgery, anatomical aberrations

THE IMPORTANCE OF DIAPHRAGMATIC PERITONECTOMY FOR OPTIMAL CYTOREDUCTIVE SURGERY IN PATIENTS WITH OVARIAN, TUBAL AND PERITONEAL CANCERS

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Background: The main prognostic factor in the survival of patients with advanced ovarian, tubal and peritoneal primitive cancers is represented by the achievability of an optimal cytoreductive surgery no residual macroscopic disease. Until recently, the main limitation in terms of obtaining an optimal radicality in gynecologic oncologic procedures was upper abdominal surgery. While multivisceral resection is frequently required in order to accomplish optimal cytoreduction, diaphragmatic peritonectomy is a frequently used procedure in ovarian cancer surgery. **Objective:** The purpose of this paper is to describe the surgical steps of liver mobilization and diaphragmatic peritonectomy. **Material and methods:** We have revised the database regarding surgical procedures performed on several female patients admitted in the First Obstetrics and Gynecology Clinic of Târgu-Mureș with peritoneal carcinosis induced by ovarian, tubal or primary peritoneal cancer. The technique of diaphragmatic peritonectomy has been described in steps that must be mastered by each gynecologic oncology surgeon. **Results :** Diaphragmatic peritonectomy has become a widely used technique in gynecologic oncology departments for patients with diaphragmatic carcinomatosis. The procedure is performed bilaterally in all patients with diaphragm involvement. Sometimes, diaphragm resection is needed with opening of the pleural cavity and closing with continuous suture. **Conclusions:** Diaphragmatic peritonectomy is a feasible technique, with low intra-operative complication rate, aiming to obtain an optimal cytoreduction without macroscopic tumor left.

Keywords: diaphragmatic peritonectomy, optimal cytoreductive surgery, peritoneal carcinosis, ovarian cancer surgery

SURGICAL MANAGEMENT OF VOLUMINOUS ABDOMINAL COMPRESSIVE UTERINE FIBROIDS-CASE SERIES

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Background: One of the women's most common benign lesions are uterine fibroids and leiomyomas, with the most affected between 50 and 60 years. In the case of fast-growing giant uterine fibroids with predominant abdominal compressive effect, surgical treatment is hysterectomy. **Objective:** The objective of our study is to analyze the surgical management of voluminous abdominal uterine fibroids in relationship with pelvic organs (rectum, sigmoid colon, ileum, bladder). **Material and methods:** We included in our research five patients diagnosed with abdominal voluminous uterine fibroids. The median age of the patients was 56 years of age. The main procedure performed was total extracapsular hysterectomy (Wiart procedure). In addition, unilateral and bilateral adnexectomy was completed in two cases, and an ovarian cyst was present in three instances. The majority of the case (n=4) presented metrorrhagia. **Results :** Postoperative monitoring revealed no complications with an average of four days of hospitalization for the patients. The largest surgical specimen size was 27/15/10 cm, with the primary histopathological type of spindle-shaped smooth muscle cells with non-typical nuclei. Gynecological fallow-up was performed with periodic echographic and valve examinations at six weeks. **Conclusions:** Surgical management of voluminous abdominal fibroids can represent a challenge due to the local anatomy of the region. A multidisciplinary team is required to manage and avoid postoperative complication.

Keywords: uterine fibroids, benign neoplasms, hysterectomy

CASE REPORT: MULTIVISCERAL SURGICAL RESECTION IN KIDNEY AND ADRENAL GLAND PENETRATING COLONIC CARCINOMA OF THE SPLENIC FLEXURE

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Background: Advanced colonic carcinoma usually presents liver metastasis(the most common location). In addition , the medical literature reported a small number of cases with renal metastasis(5%). However, only 2% of the reported instances present a direct kidney/adrenal penetration. **Objective:** Our paper aims to present the surgical management of an 82-year old male patient diagnosed with occlusive kidney and adrenal penetrating colon carcinoma of the splenic flexure. **Material and methods:** The patient was admitted to the emergency department with occlusive syndrome. Abdominal computer tomography revealed a colonic dilatation of 11 mm and abrupt colon interruption at the splenic flexure level. The surgical procedure performed in emergency settings was a subtotal colectomy with a left nephrectomy and adrenalectomy (multi-visceral resection). Intestinal continuity was restored with a latero-lateral ileo-sigmoidal mechanical anastomosis. **Results :** Postoperative monitoring was performed in the intensive care unit (ICU) for five days, with intestinal transit restored on postoperative day two. No early postoperative complications were present with continuous patient monitoring of cardio-renal vital functions. The patient was discarded on postoperative day 12. Histopathological examination revealed a direct tumor invasion in the suprarenal gland with metastasis in 10 out of 60 lymph nodes with free proximal and distal resection margin (R0). **Conclusions:** Colonic carcinomas with splenic invasion are rarely reported in the literature. The peritoneum and Gerot's fascia form a strong barrier for malignant tumors. In order to obtain an R0 resection, the surgery for advanced colonic carcinoma must be performed in specialized centers with an experienced surgical team. In the case of emergency surgery, the challenges are even higher, requiring a professional ICU department for postoperative care.

Keywords: splenic flexure, colon carcinoma, kidney penetrating, multi-visceral resection

REVIEWING TREATMENT OPTIONS IN SPONTANEOUS OSTEONECROSIS OF THE KNEE (SONK)

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Background: Spontaneous osteonecrosis of the knee (SONK), first described by Ahlback et al. in 1968, was characterized as a focal superficial subchondral lesion, apparently without a certain etiology. SONK belongs in the classification of knee osteonecrosis together with lesser common secondary osteonecrosis and post-arthroscopic one. Formerly thought to be of ischemic origin, latest theories propose a new identity for this disease: subchondral insufficiency fractures of the knee (SIFK), given the high association with meniscal tears or meniscectomy. Left untreated, SONK may progressively lead to end-stage osteoarthritis, altered biomechanics and pain. **Objective:** The aim of this review is to identify and describe various treatment options in order to assess their particular indications, outcomes and characteristics in order to better guide current surgical practice. **Material and methods:** Multiple SONK-related keywords and MESH terms were used in MEDLINE and Google Schoolar databases until February 2022, to evaluate results from various treatment methods of spontaneous knee osteonecrosis. **Results :** The current medical practice in SONK benefits from various treatment options, both non-surgical and surgical. The evaluation of a specific treatment's relevance in this disease should not be influenced by the ability to resolve universal lesions. Instead, the clinician should know all the available options along with their specific potential and particularities, in order to choose the right one based on patient variability. Tipically, the decision between the conservative and surgical approach is based on lesion size and Aglietti radiographic classification system in 5 stages. Patients with lesions smaller than 3.5 square centimeters or Stages I&II have a great reversibility potential using non-operative treatments. Possibilities consist of: protected weight-bearing using crutches, NSAIDs, bisphosphonates, prostaglandin I2, analgesics together with physical therapy aiming to strengthen muscles. Great results have been obtained with pulsed electromagnetic fields stimulation for incipient stages. Patients with lesions greater than 5 square centimeters or Aglietti stages III to V must undergo a surgical treatment. Options before the

knee-joint collapse include: arthroscopy, core decompression, bone grafting, tibial osteotomy or more novel approaches like subchondroplasty. Post-collapse available surgeries are: osteochondral autograft, unicompartmental knee arthroplasty and total knee arthroplasty. **Conclusions:** Multiple non-surgical and surgical treatments of SONK were examined without finding a single universally applicable superior method, but they were listed and described based on their unique potential to bring value in different anatomical or clinical settings.

Keywords: knee joint, osteonecrosis, SIFK, SONK

CASE REPORT: SURGICAL MANAGEMENT OF RECURRENT INVASIVE BREAST CARCINOMA

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Introduction: Invasive ductal carcinoma (IDC) of no particular type (NST) is the most common form of invasive breast cancer. Invasive ductal carcinoma usually has no symptoms, thus often being discovered upon a routine check-up. The treatment plan is established by evaluating the advancement of the tumor, leading to either a surgical or a non-surgical approach. **Case Report:** We admitted a 41-years-old woman who presented in October 2020 with a rapidly developing nodular formation in the upper lateral quadrant of the left breast. No history of breast malignancies was found in her account. The mammogram revealed a well-demarcated 53x80 mm opacification and two small axillary lymph nodes. A bulky, polynodular, hypoechoic tumor was visualized in the left breast, measuring 43x62 mm. Puncture-biopsy examination revealed a possible malignant phyllodes tumor. The immunohistochemical analysis detected a high Ki-67 proliferative index (90%). Subsequently, the patient underwent six cycles of chemotherapy, followed by a toilet mastectomy. Despite all the medical treatments, the patient was not compliant with the neoadjuvant chemotherapy. Three months following the surgery, the patient developed a locally recurring tumor mass, measuring 2 cm in greatest diameter. In January 2022, four bilateral micronodules were found on her chest during a CT investigation. We performed a reintervention on the exulcerated, over-infected left breast using toilet mastectomy. Due to the large excision, the patient required a PPLD skin graft of approximately 10x7 cm in the pectoral region. **Discussions :** IDC is the most frequent histologic form of invasive breast cancer, accounting for 72-80 percent of all invasive breast cancers. E-cadherin expression has been linked to a compact development pattern in invasive ductal carcinomas. There is no consensus on how to classify and grade IDC. In most modern systems, the nuclear grade is used, either solely or along with necrosis and cell polarization. **Conclusions:** Despite cancer treatment and toilet mastectomy, the patient relapsed again, superinfecting herself with MDR Acinetobacter baumannii. While surgical approaches are practiced in such cases, awareness of prevention and self-examination would be essential to forestall disease advancement with severe complications so that early intervention could offer effective treatment.

Keywords: No Special Type Tumor, Invasive Ductal Carcinoma, Toilet Mastectomy, Breast Cancer Awareness

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COMPARATIVE ANALYSIS OF FETAL ECHOCARDIOGRAPHIC NORMALITY CRITERIA IN THE SECOND AND THIRD TRIMESTERS OF PREGNANCY

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Background: With the development of fetal echocardiography in the last 30 years and the improvement of prenatal care programs, the screening of congenital heart malformations is no longer limited to examining fetuses with a maternal history of risk factors but is now an integrated part of prenatal care recommended to be performed according to the guidelines in the second trimester, optimally between 20 and 22 weeks. **Objective:** This study aims to compare fetal echocardiographic parameters obtained in the second trimesters of pregnancy with those from third one as well as reporting them to nomograms. Also, the identification of fetal cardiac anomalies detected in the second trimester of pregnancy and the analysis of their dynamics in the third trimester was an important objective. **Material and methods:** The study has a prospective design and included an initial number of 39 patients enrolled, later reaching 35 patients as 4 patients were excluded because they did not perform consecutive monitoring. The study was conducted between October 2021 and March 2022, including pregnant women with singleton fetuses of gestational age 22 weeks, at the first monitoring followed up by a second monitoring at 32

weeks gestational age. Ethical procedures were accomplished. The fetuses were structurally and functionally monitored by echocardiography using the four-chamber view, completed by outflow tracts view and three vessels view for widening the spectrum of malformation detection. **Results :** Regarding the structural parameters, atrial and ventricular morphology, anatomical positioning of the descending aorta and inferior vena cava, site, atrioventricular and semilunar valves morphology, interatrial and interventricular septum integrity, a correlation of 100% normality was found corresponding to both trimesters. The analysis of the basal fetal heart rate shows a decrease in its value ($p < 0.03$) from the second trimester (Median 143 ± SD 5.93) to the third trimester (Median 138 ± SD 6.92). The Z score was used as a way to express the measurements of great vessels with minimum and maximum values as it follows for second and third trimester: aortic valve (AoV)(-1.26;0.89) (-78;0.76), ascending aorta (AAo) (-1.07;0.58) (-1.74;0.26), descending aorta (DAo) (-0.68;0.78) (-1;0.89), aortic isthmus (AoI) (-1.05;1.32) (-1.27;0.81), no parameters reaching the pathological values of Z score -2, thus excluding suspicions related to coarctation of the aorta and hypoplastic left ventricle syndrome **Conclusions:** Echocardiography has been shown to be important in excluding congenital heart defects. When they are present, its role is to clarify the malformation and improve the prognosis and outcome after birth.

Keywords: echocardiography, prenatal, diagnosis

FANTASTIC TUMORS AND WHERE TO FIND THEM: A RARE CASE OF RETROPERITONEAL CLEAR CELL SARCOMA

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Background: Clear cell sarcoma are one of the rarest type of tumors, considering that sarcoma represents 1% of all the malignant tumors diagnosed every year. Clear cell sarcoma is a type of tumor that usually occurs in the lower part of the body, usually in places such as tendons, fascia or aponeuroses, but it can also develop throughout the gastrointestinal tract. There is little to no literature concerning retroperitoneal clear cell sarcoma. **Objective:** Our objective is to present the case of a patient with one of the rarest types of tumors, a retroperitoneal clear cell sarcoma. **Material and methods:** A 38-year-old male patient who was refered to the surgical department for an advanced abdominal mass. Contrast enhanced tomography revealed a large retroperitoneal mass pushing the liver and the pancreas over the abdominal midline, with an important relationship to the right kidney (determined to be unviable), to the superior mesenteric artery, the visceral side of the liver and the inferior vena cava. **Results :** The surgical team performed tumor en bloc with the right kidney. No evidence of lymph node metastasis was determined. However, upon gross pathological examination, it was determined that there was lympho-vascular invasion, but without the involvement of the retroperitoneal lymph nodes. Immunohistochemically, the tumor cells displayed staining for Melan A, HMB45, S100, NSE, bcl2, CD68, which is consistent to a G3 FNCLCC clear cell sarcoma diagnosis. Systemic MAID regime was afterwards advised as well as periodic follow-ups. **Conclusions:** Considering that clear cell sarcoma can spread throughout the body in the same way soft tumors (such as melanoma) spread, aggressive surgical approach should be considered. Although a larger retroperitoneal resection may increase morbidity, it can lead to a better regional control, but also improve the overall outcome of the patient.

Keywords: retroperitoneal sarcoma, clear cell sarcoma, rare malignant tumors, soft tissue sarcoma

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CHANGES IN LABORATORY FINDINGS IN PREGNANT PATIENTS WITH SARS-COV-2 INFECTION

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Background: The COVID-19 pandemic has been affecting the entire population for the past two years putting a strain on the global medical system. Given the fact that pregnancy is a special physiological state that most women experience, it is expected that COVID-19 would most likely affect them as well. During pregnancy many functions of the human body adapt to a variety of changes, but the decrease in lung capacity is the one that makes pregnant women most susceptible to a viral infection. **Objective:** The purpose of this paper is to observe the laboratory changes that COVID-19 caused in physiological pregnancies. **Material and methods:** We conducted a

retrospective clinical trial in Mures County Clinical Hospital Obstetrics and Gynecology during November 2020-March 2022. The study group included 60 pregnant patients infected with SARS-CoV-2 virus. **Results :** Our study's population age interval spans from 15 years of age to 45, with an average of 29,8 +/- 6,44 SD years, out of which 74% came from a rural environment. 70% of the patients gave birth through a Lower-segment transversal caesarian section, for various reasons, such as the onset of acute fetal distress, negative labor test and scarred tissue on the uterus. 30% of patients gave birth through spontaneous vaginal delivery. Assessing the laboratory results we noted the following changes: 45% of the patients had an increased value of Leucocytes, 10% had an increased value of Neutrophils and 25% had a decreased value of Lymphocytes. Also we noted a significant increase in the inflammatory markers such as: Ferritin values were increased in 5% of the cases, Fibrinogen values were increased at 55% of patients. Creatine kinase also had a higher value in 10% of patients. Hepatic Enzymes were elevated as well in most of the patients: Total Bilirubin had an increased value in 10% of cases, ALT and AST values were high in 15% of patients. **Conclusions:** Given the fact that pregnant patients have a higher susceptibility for developing viral infections, it is of utmost important to closely monitor the laboratory changes that occur, in order to administer the proper treatment and care.

Keywords: SARS-CoV-2, Pregnancy, Laboratory results

BREAST CANCER MANAGEMENT BEFORE AND DURING THE SARS-COV-2 PANDEMIC

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Background: Breast cancer is a major public health problem with many risk factors which influence the therapeutic protocol. **Objective:** The study aims to analyze the impact of the SARS-CoV-2 virus pandemic on the therapeutic management of patients with breast cancer. **Material and methods:** The study includes a retrospective analysis of 265 patients with breast cancer, diagnosed between 1.01.2016-13.06.2021. Following the exclusion criteria, 141 patients were eligible for the study, who were divided into two groups: precovid and covid. Patients were analyzed based on observation sheets, medical bulletins and histopathological examinations. **Results :** The number of new cases of breast cancer is decreasing, with a peak around the ages of 55-65, not having a predisposition for the environment of origin. The quadrant most affected by the malignant process was the supero-external one. In patients treated during the covid period, a dramatic reduction in the number of days of hospitalization was observed. Secondary diagnoses in the covid group were predominantly digestive, cardiovascular and respiratory, while in the non-covid group were predominantly cardiovascular and metabolic diseases (diabetes). The most commonly used surgical technique was Madden radical mastectomy with lymph node dissection. The predominant histological type was No Special Type (NST) and the degrees of Elston Ellis malignancy were higher in the covid group. In addition to surgical treatment, some patients also received chemotherapy, in a higher percentage for patients treated during the covid period. **Conclusions:** The pandemic has had a negative impact on the treatment of breast cancer patients, as well as on screening.

Keywords: mastectomy, chemotherapy, tru-cut biopsy, mammography

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CLINICAL AND EVOLUTIONARY CONSIDERATIONS OF HYDATID DISEASE

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Background: Echinococcosis in humans occurs following infection by the tapeworm Echinococcus Granulosus in its cystic or larval stage. The cystic hydatid disease is still a very important heath problem in European Mediterranean areas, India, and South Africa. The dog as a pet remains the most common source of infection, transmitted to intermediate hosts as humans. Most hydatid cysts form in the liver, but they can also occur in the pulmonary system or musculo-skeletal system. The "gold-standard" in curing the disease is surgical treatment coupled with medication. **Objective:** The aim of our study is to analyze the etiologic and pathogenic factors, epidemiology, and treatment of hydatid disease of different sites and/or organs and to analyze the mortality and morbidity. **Material and methods:** The present study considers 78 patients suffering from hydatid disease in various sites, treated between August 2013 to September 2020 in Surgical Clinic No.1, Târgu-Mureș Emergency County Hospital. Age, sex, the place of origin, the comorbidities, duration of hospital stay, surgical treatment as

well as mortality and recurrence rate were recorded and analyzed. **Results :** Mean age was 50 years. The sex incidence revealed male preponderance in our study (51,3% Males, 48,7% Females), with most patients being from rural areas (75,6%) and remaining from urban areas (24,4%). The incidence of hydatid disease of the liver was higher than in other sites, both in females (38,5%) and males (39,7%), with the main occurrence in the 4th (71,4%) and 6th hepatic lobe (73,7%). The mean duration of hospital stay was 12 days and the surgical technique that was mostly utilized was the Mabitt-Lagrot perichistectomy (performed in 51 cases). Recurrence happened in one patient. **Conclusions:** Although hydatid disease remains a frequently encountered pathology in our country due to its mainly rural predisposition, it continues to remain underdiagnosed or lately diagnosed due to its unspecific clinical manifestations. The importance of an interdisciplinary attitude is paramount to offer fast and concrete diagnosis for a better treatment plan.

Keywords: hydatid disease, Echinococcus Granulosus, Mabitt-Lagrot perichistectomy

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SURGICAL MANAGEMENT OF PATIENTS DURING COVID-19 PANDEMIC

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Background: Coronavirus disease 2019 (COVID-19), a predominantly respiratory viral illness is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case was reported in Wuhan, China, in December 2019 and in less than 4 months, on the 11th of March the World Health Organization (WHO) declared it a global pandemic. It has had a major impact on the world's population, causing more than 5.4 million deaths worldwide. In also had a major impact in the surgical field, overwhelming many healthcare systems. **Objective:** The main objective of our retrospective study was to analyze the surgical management of patients hospitalized in Surgery Clinic Number 1, Emergency County Clinical Hospital of Târgu Mureș, to observe the impact of the SARS-CoV-2 pandemic in surgical decision making. **Material and methods:** The present study has been made by collecting data from two cohorts: the patients admitted from 1st of January 2019 until 14th of March 2020 and the patients admitted during the COVID-19 outburst, from 15th of March 2020 until 31st December 2020. **Results :** We observed that the mean age of hospitalized patients was 60 years old and the age category most affected by the virus was 51-75 years old (49,6%). Most patients in both years, 2019 and 2020, were men (43,22% vs 13,44%) and a decrease in the number of hospitalizations can be also seen in women (33,29% vs 10,03%). The length of hospitalization has decreased by 0,34% and the mean average was of 8 days. The most found diagnosis was acute appendicitis (11,6%), followed by cholecystitis (10,1%). Exploratory laparotomy was the mostly used surgical procedure, 27,1%, followed by exploratory laparoscopy, 20,7%. CT scans have been performed on 51,7% and we can also observe an increase of its usage in 2020 (58,1% vs 49,7% in 2019). The results also show a decrease of the mortality rate in 2020 (8,5%) compared to 2019 (10,2%). **Conclusions:** The pandemic of COVID-19 has interrupted the normal routine of surgical management and treatment. A significant reduction in the number of patients admitted to out clinic was observed and this might have led to important delays in the urgent and semi-elective surgical interventions due to the prioritization of this disease-suffering patients.

Keywords: COVID-19 Pandemic, Laparotomy, Emergency Surgery

EMERGENCY MANAGMENT OF TRANSVERSE COLON CANCER

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Background: Transverse colon cancer is the rarest of all colon cancers, as an affected segment. It is rarely simptomatic in its early stages, which is one of the reasons why patients often have complicated forms such as perforation of the bowel, stenosis or obstruction. Due to the delayed diagnoses and the advanced stages, this type of cancer is associated with high mortality rate. **Objective:** The aim of this study is to analyze the outcome of emergency treatment of a complicated form of transverse colon cancer. **Material and methods:** We conducted a retrospective study that included all cases of patients with transverse colon cancer admitted through the Emergency Department, at the First Surgical Department of the Emergency County Hospital in Targu Mures in the period of 2017-2021. **Results :** Over the 5 years we registered 12 cases, with an average age of 73. About 60% of

the patients were male , 40% - female. All of them presented a complicated form of transverse colon cancer 92% had occlusion or sub-occlusion due to stenosis (from those 18% presented both hemorrhage and stenosis) and 9% - penetration into another organs. 42% had to be admited to the ICU, with an average lenght of stay of 15 days. The longest admission of a patient in ICU was 30 days. Overall, the mortality rate was found to be 25%. **Conclusions:** Based on our research the emergency treatment of transverse colon cancer has a high mortality rate and a high risk of unplanned ICU admission.

Keywords: transverse colon cancer, ICU admission, mortality rate

CEPHALOMETRIC MEASUREMENTS - AN AID OR A HINDRANCE IN THE DIAGNOSIS OF SLEEP APNEA

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Background: Sleep apnea is a well known and, potentially, a very severe sleep disturbance in which the patient experiences repeated stops in his/her breathing throughout the night. The prevalence of sleep apnea in the general population is around 20% in males and 10-15% in females; these percentages are an estimation, sleep apnea being in most cases under-diagnosed. The gold standard for setting the diagnosis of sleep apnea has been polysomnography, but recently there have been more discussions about the increased use of cephalometric measurements as an alternative or as an aid in the final diagnosis of this complex sleep disorder. This study wants to examine the correlation between certain cephalometric measurements (MPH - mandible plane to hyoid, PAS - pharyngeal airway space and uvula length) and the severity of sleep apnea based on the AHI (apnea-hypopnea index). **Objective:** This study aims to investigate if there are significantly modified cephalometric measurements in adult patients diagnosed with sleep apnea of different grades based on the AHI. **Material and methods:** This retrospective, cross-sectional, analytical study aimed to examine the data gathered from 152 patients (138 male - 90.79%, 14 female - 9.21%) all aged between 47 and 102 years (M=77.8 years, SD=10.45). In this study we analysed the variables mentioned (MPH, PAS and uvula length) together with the values obtained through polysomnography on the AHI, for our patients, the outcome being the statistical correlations between the modified cephalometric values and the severity of sleep apnea based on the AHI value. **Results :** We obtained statistically significant results through the correlation of the aforementioned variables: AHI value and MPH (p=0.036, r=0.1699), AHI value and uvula length (p=0.01, r=0.208), meanwhile there was no statistically significant result in the AHI value and PAS correlation (p=0.176, r=-0.11). A Spearman correlation analysis was used on the three variables together with the apnea-hypopnea index value, and the results showed a weak, statistically significant correlation between the measured AHI value and two of the three variables (MPH and uvula length). **Conclusions:** The study concluded by finding a small correlation between the severity of sleep apnea measured through the AHI and the examined cephalometric values, thus a greater length uvula and an increased MPH value tend to correlate with a more severe level of sleep apnea. The PAS measurement was also expected to be correlated with the severity of the disease, but a possible explanation for this discrepancy might be the limited number of participants in this study.

Keywords: Sleep apnea, cephalometric measurements, apnea-hypopnea index, polysomnography

SURGICAL MANAGEMENT OF DIAPHRAGMATIC HERNIAS

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Background: Diaphragmatic hernias and especially the hiatal ones affect a great number of people, although most of them remain undiagnosed (60% being asymptomatic). The treatment is conducted in a minimal invasive manner, classic procedures being reserved for special casses. **Objective:** To analyse the surgical techniques that were used according to the type of hernia, severity of pathology and postoperative evolution of the patient. **Material and methods:** This paper is a retrospective study done over a period of 22 years, including 261 pacients, aging between 27 to 82 years hospitalized in the General Surgery 1 Department of SCJU Târgu Mureș. For these patients the following parameters were monitored: age, gender, BMI, the type of hernia, the type of intervention, risk factors and postsurgical development. **Results :** The majority of the interventions were hiatal hernias (98,5%).

101 of those cases were solved in a minimal invasive manner (38,7%). The technique mostly used to solve the patology was Nissen Fundoplication. **Conclusions:** The results obtained from the minimal invasive procedures were far superior to the classic variants. Some of the benefits are the following: short spitalization, less discomfort after the surgery and early resumption of feeding.

Keywords: Diaphragmatic hernias,, Hiatal hernia,, Nissen Fundoplication

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LONGITUDINAL GASTRECTOMY: NUTRITIONAL AND METABOLIC IMPACT IN OBESE PATIENTS

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Background: With significant increase in prevalence in recent decades, obesity has become a major 21st century health problem. Obesity is defined as an excess of adipose tissue that causes adverse consequences to the body. Weight assessment is done by using the Body Mass Index (kg/m2), obesity starting from a BMI of 30 kg/m2. A large number of comorbidities associated to obesity can be improved by weight loss. Sleeve gastrectomy is one of the most commonly used bariatric techniques along with the gastric bypass. Studies have shown that it leads not only to weight loss but also to the improvement of obesity-related risk factors such as hypertension and diabetes. **Objective:** This study aims to show the effects of longitudinal gastrectomy in terms of weight loss, as well as in the remission of high blood pressure and diabetes in obese patients. **Material and methods:** The study included 125 patients that benefited from a sleeve gastrectomy between 2020 and 2021. Every patient was periodically evaluated by assessing the weight loss and the improvement or resolution of comorbidities. **Results :** At baseline, 29 (23.2%) patients had hypertension, after 1 year 28 patients had normal blood pressure levels while 1 patient reduced his medication. 24 (19.2%) patients had type 2 diabetes mellitus of which 17 recovered and 4 reduced their treatment. The mean BMI was of 41.96 kg/m2 (95%CI 40.44-43.49) and the mean excess weight loss was of 85% at 6 months ($p<0.001$, 95%CI 79.62-90.38) and 107.4% ($p<0.001$, 95%CI 98.22-116.5) 1 year after the surgery. **Conclusions:** Longitudinal gastrectomy shows significant rates of excess weight loss, of improvement or remission of high blood pressure and type 2 diabetes mellitus at one year.

Keywords: Longitudinal gastrectomy, Bariatric surgery, Excess weight loss, Hypertension

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INCIDENTAL PARATHYROIDECTOMY DURING THYROID SURGERY: INCIDENCE AND RISK FACTORS

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Background: Although the thyroid gland is located relatively superficially in the cervical region, anatomical relationships with surrounding structures and local anatomical variability predispose to certain complications. Injury of the parathyroid glands during the thyroidectomy is the most common complication that can occur, even to the most experienced surgeons. The type of intervention to be performed is chosen according to the thyroid pathology and other individual characteristics. **Objective:** The purpose of the study is to identify the incidence of accidental parathyroidectomy associated with thyroid surgery and to verify if the type of surgery can be related to that. **Material and methods:** Our retrospective study included 229 patients, who underwent thyroidectomy in the Surgery Clinic I of the Emergency County Clinical Hospital of Tirgu-Mures, between 1 January 2016 and 31 December 2020. The patients were divided into two study groups, the first comprising 65 patients with thyroid neoplasm who underwent thyroidectomy, and the second group consisting of 164 subjects with benign thyroid pathology, thyroidectomized. **Results :** Parathyroid glands were excised in 26 pacients (15.85%) in the study group with benign thyroid pathology, and in 14 cases (21.54%) in the group of patients with malignant pathology. In the batch of patients with benign pathologies, 69%(18) of the extracted parathyroid glands were removed during the total thyroidectomy surgery ($p = 0.2$), 4%(1) in the subtotal intervention ($p = 0.03$), 19%(5) in hemithyroidectomy ($p = 0.98$) and 8%(2) in hemithyroidectomy and isthmectomy ($p = 0.71\%$). 86%(12) of pacients with incidental parathyroidectomy undergone total thyroidectomy ($p=0.01$), 0% subtotal surgery ($p=0.28$), 7%(1) of them suffered hemithyroidectomy surgery ($p=0.09$) and the same amount of pacients (7%) undergone hemithyroidectomy and isthmectomy ($p=0.9$). A statistically significant association was found between subtotal thyroidectomy and parathyroidectomy in the benign group and between total thyroidectomy and parathyroid

excision in the malignant one. **Conclusions:** Although the incidental parathyroid excision might be difficult to avoid due to the local anatomy, watchful intraoperative identification of parathyroid structures and careful dissection during thyroidectomy can decrease the incidence of accidental parathyroidectomy. The total and subtotal types of interventions might be an additional risk factor.

Keywords: Incidental parathyroidectomy, Total thyroidectomy, Subtotal thyroidectomy, Parathyroid

COULD NLR HAVE AN IMPACT ON THE OUTCOME AND PATENCY IN PATIENTS WITH FEMOROPOPLITEAL DISEASE?

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Background: Peripheral arterial disease (PAD) is the most common manifestation of the atherosclerotic process, except for the corneal and cerebral arterial systems. Inflammation is well known to have a role in the progression of atherosclerosis, and therefore, in PAD. Among the recently studied markers in the literature, we list the neutrophil-lymphocyte ratio (NLR). **Objective:** This study aims to analyze the pre-operative role of NLR in the medium-term outcome of patients surgically revascularized (remote endarterectomy) for femoropopliteal disease. **Material and methods:** A retrospective study included patients admitted to the Vascular Surgery Clinic of the County Emergency Clinical Hospital of Târgu-Mureș, Romania, between January 2019 and December 2019, diagnosed with femoropopliteal disease, and having presented an indication for surgical revascularization (remote endarterectomy). The patients included in the study were classified according to the cut-off value of NLR in low-NLR and high-NLR. **Results :** The study included 174 patients with femoropopliteal disease who met all the criteria. For the whole group, there was an average age of 68.94 ± 7.09 with ages between 50 and 93 years, with a predominant interest of 75.29% males. Depending on the Leriche-Fontaine staging, there was a higher incidence of stage IV in the high-NLR group (20.45% vs 47.62%; p=0.0008). The 30 days (p=0.004) and 12 months (p<0.0001) primary patency was higher in the low-NLR group. Moreover, the amputation rate (6.06% vs 28.57%; p=0.0003) and mortality rate (3.03% vs 35.71%; p<0.0001) had a higher incidence in the high-NLR group. An NLR> 4 was associated with all adverse outcomes. **Conclusions:** Our findings established that a high value of pre-operative NLR determined at hospital admission was strongly predictive of primary patency failure. (12 months after revascularization). Also, elevated ratio values were associated with a higher amputation rate and mortality for all patients enrolled in the study.

Keywords: femoropopliteal disease, vascular surgery, NLR, remote endarterectomy

SURGICAL MANAGEMENT OF DIFFERENTIATED THYROID CARCINOMA- A SINGLE CENTER EXPERIENCE

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Background: Thyroid cancer is the most frequent type of endocrine neoplasm, with increasing incidence in the past few decades. The most common forms are differentiated thyroid carcinomas: papillary and follicular. These are considered "favorable outcome" types of cancer, responding well to surgical treatment and having 5-year survival rates greater than 90%. **Objective:** The aim of our study was to analyze the profile and surgical management of patients suffering from papillary and follicular thyroid carcinoma **Material and methods:** We conducted a retrospective study that included 190 patients who were admitted in our surgical department between (2017-2022) and who underwent thyroid surgery for differentiated carcinoma, by analyzing clinical, surgical and histopathological data. **Results :** The majority of the patients were females (84.2%), between the age of 40 and 60 (40%). About 88.4% of the tumors were the papillary type and unilateral and 24% were multifocal. Most of them did not present metastases and only 10% needed a second intervention(completion). In 80.75% of the cases the performed surgery was total thyroidectomy, 40.4% also needing lymphadenectomy. Out of these cases 81.97% presented lymph nodes metastases. Most patients were in pT1 TNM stage (75.5%), with only 11.5% being pT1aN1. **Conclusions:** Thyroidectomy is a safe and effective treatment for differentiated thyroid carcinoma, these patients having a favourable outcome and evolution and most important, low morbidity and mortality rates.

Keywords: thyroid carcinoma, papillary carcinoma, follicular carcinoma, thyroidectomy

THE NASAL CUTANEOUS BASAL CELL CARCINOMA OPERATED AND RELAPSED, RECONSTRUCTED WITH A GLABELLAR PEDICLE FLAP. CLINICAL CASE

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Background: Basal cell carcinoma (BCC) is the most common type of malignancy in humans with an ascendant growth, the major carcinogenic factor being a long-term ultraviolet (UV) exposure. BCCs prognosis is linked to the risk of recurrence of basal cell carcinoma or its local destructive capacity. **Objective:** The propose of this paper is to present a clinical case of a 68-year-old male, smoker, with a vast medical history, having multiple comorbidities such as chronic toxic hepatitis, chronic bronchitis, chronic kidney disease, type II hypertension, iron deficiency and anemia, chronic venous insufficiency (CVI) and arterial pathology represented by peripheral artery disease of the lower limbs with preserved pulse at the posterior tibial artery. He was addressed to the Otolaryngology (ENT) Outpatient Clinic of the Iași County Emergency Hospital "Sf. Spiridon" for a routine checkup. **Material and methods:** In 2005, after a dermatological examination, the patient is diagnosed with BCC which is neglected. In 2011 the patient had a surgical procedure consisting of BCC excision keeping the safety margins and reconstruction of the nose with a back-ear split thickness skin graft on plastic surgery clinic, by dr. Camelia Tamaș. In January 2022, after a dermatology exam, there was discovered an ulcerative relapsed of BCC, localized, with small dimension without the presence of bone or cartilaginous tumor invasion. The surgical treatment consisted of excision of the previous graft on local anaesthesia, sedation and reconstruction of the bridge of the nose with a glabellar pedicle flap by a surgical team: a plastic surgeon (dr. Camelia Tamaș) and a primary care otorhinolaryngologist (dr. Cătălina Pintilie). **Results :** The postoperative evolution showed a rapid wound healing with a good remission of the ecchymosis (in 5 days postoperative), the patient has been discharged in 3 days and upon 10 days postoperative was required the removal of the sutures. **Conclusions:** BCC is a slowly growing tumor that can generally be cured with surgical methods such as excision of the tumor and plastic surgery reconstruction or in some cases are used chemotherapy and radiotherapy. This is why is important to be closely monitored for a prompt intervention when it is necessary.

Keywords: basal cell, glabellar flap, carcinoma, anaesthesia

VASCULAR XENOGRAFTS IN VIVO TESTING

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Background: Cardiovascular disease, the leading cause of mortality and morbidity nowadays, often requires vascular reconstruction. Autologous grafts are the most common substitutes for bypass procedures. Nevertheless, autologous vessels are not an available option in 10% of the cases. This is due to various factors, such as: vessel diseases, previous surgery or trauma. One could consider synthetic grafts as the best alternative. However, these grafts often carry a high risk of thrombosis, especially if the diameter of the graft is smaller than 6 mm. Moreover, they cannot adapt to the physiological changes in the body. As a result, tissue engineering represents a promising approach to the current drawbacks; the goal is to produce living-tissue-engineered grafts with biocompatibility, good hemodynamic performance and growth potential. **Objective:** The purpose of this study was to obtain acellular arterial grafts from intact porcine carotides. Furthermore, the scaffold potential of repopulation was tested in vivo on sheeps for 3 months. **Material and methods:** Fresh porcine carotides (n=15) were brought to the Regenerative Medicine Laboratory at the UMFST "G.E. Palade" in Târgu Mureș. To prepare arterial grafts, we produced completely acellular carotides by infusion decellularization, using detergents and enzymes. Seven adult female sheep aged 4-6 years and weighing 45.0-60.0 kg were our experimental animals. We pursued orthotopic implantation of the xenografts in sheeps after Doppler ultrasound. The carotidian blood flow was measured with "MediStim" vascular flowmeter before and after the procedure. The animal models were followed-up for 3 months before scheduled euthanasia. **Results :** Infusion decellularization showed acellular carotides that were stable, biocompatible, cell friendly, no degradable in vivo with excellent hemodynamics. At explantation, the conducts and

anastomoses were intact, non fibrotic, unchanged in size, emphasising how well the grafts were integrated. The histologic examination is ongoing. **Conclusions:** In conclusion, this study highlighted that the current limitations in vascular reconstruction could be overcome. The existence of a dynamic xenograft with biocompatibility is an important step for the future of medicine. Further investigations and long term surveillance are needed.

Keywords: tissue engineering, decellularization, scaffold

A COMPARATIVE STUDY OF THE DIRECTLY RECORDED INTRA- ABDOMINAL PRESSURE WITH THE PRESSURE RECORDED INDIRECTLY THROUGH THE TRANSVESICAL ROUTE

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Background: In the clinical context the increase of the intra-abdominal pressure is a lot of times underestimated, because even early on the organs are suffering under the increase of the intra-abdominal pressure. The intra-abdominal pressure is the pressure formed inside the abdominal cavity, depending on inspiration and expiration. An increase in the intra- abdominal pressure can interfere with the normal function of the abdominal organs, but also with the function of heart and lungs and the entire blood circulation. Different etiologies are known to cause a rise in intra-abdominal pressure, for example abdominal trauma, ileus, pneumoperitoneum, ascites, intra- or retroperitoneal bleeding or mesenterial infarction. **Objective:** Different methods of measuring intra-abdominal pressure have become medical practice after recognizing the effects on the body of an increased intra-abdominal pressure. The intra-abdominal pressure translates to the pressure recorded inside the peritoneal cavity, between its organs. Up to a certain point, due to the musculoaponeurotic structure, the abdominal wall can compensate an increase in pressure but after the pressure values begin to rise rapidly. Measurement methods became necessary due to a low sensitivity of the clinical examination. There are two ways for measuring intra-abdominal pressure: direct invasive method and indirect noninvasive methods. The direct method is the most sensitive in determining intra-abdominal pressure values. But as an invasive method it comes with possible complications like bleeding or perforations, which makes it a less feasible option. **Material and methods:** The method to evaluate the efficiency of the measurement via the transvesical route was to directly compare the obtained values to the values taken at the same time by the measurement by the direct method during laparoscopic cholecystectomy for chronic lithiasis cholecystitis. The Abviser ABV611 kit was used to measure the transvesical pressure. **Results :** The data obtained, recorded in 24 moments in 12 cases studied, by the two methods were compared for each moment of the determinations. The differences between the values were statistically insignificant. **Conclusions:** The intra-abdominal pressure can be reliably determined by the direct invasive method and by the indirect non-invasive transvesical method. The transvesical approach is extremely easy from a technical point of view. Direct and indirect intra-abdominal pressure determinations showed no statistically significant differences except when very rapid changes of in intra-abdominal pressure occur. The bladder wall can be considered a good membrane pressure transducer. Due to its accuracy, it is also useful in measuring the progression of the intra-abdominal pressure post-surgically or in critical ill patients in the intensive care unit.

Keywords: intra-abdominal pressure, direct measurement, indirect transvesical, abdominal compartment syndrome

RIGHT COLON CANCER - SURGICAL THERAPEUTIC APPROACH AND POSTOPERATIVE OUTCOMES

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Background: Colon cancer ranks third among cancers in Romania and is the second in terms of mortality caused by neoplasia. Unfortunately, tumors located in the right colon recognize a longer evolution up to the time of clinical manifestation and the patients are presenting often with a locally advance disease or already in the metastatic state. This is why the surgical treatment must face sometimes complex therapeutic decisions. **Objective:** The aim of this study was to assess the surgical therapeutic approach and to find correlations with the postoperative outcomes. **Material and methods:** We performed a retrospective evaluation on a series of 75 consecutive cases of patients admitted and operated, from January 2017 to December 2021, in the 1st Surgical Department of the

County Emergency Clinical Hospital of Târgu Mureș, for the diagnostic of right colon cancer. Were considered both elective and emergency procedures. We gather and organized in an electronic database information regarding: demographic, clinical and biological parameters of the patients, operative procedures and anatomopathological results on the evaluation of the tumors. In order to establish significant correlations, we processed the data using statistical analysis. **Results :** The studied group of 75 patients operated for right colon cancer, during this five-year interval, had a sex distribution rate of 4: 3 men to women and an average of 69.49 years of age. For 56 patients an elective surgery was performed and 19 cases were operated in emergency. The tumors were located in 8% at the level of the cecum, 60% in the ascending part of the right colon and in 32% of the cases at the hepatic angle of the colon. In 74.66% of the cases a right hemicolectomy was performed and for another 21.33% of the patients an extended right hemicolectomy was practiced. There was one limited resection of the cecum and one limited resection of the hepatic angle. For one patient, a subtotal colectomy was performed for a synchronous ascending colon and sigmoid colon cancer. 13.33% of the procedures were made laparoscopically. The overall morbidity rate in the studied group was of 16% and a mortality of 5.33%. **Conclusions:** The high rates of morbidity and mortality can be due to the locally advance disease and the poor biological state of the patients that presented late to hospital and were operated in emergency conditions.

Keywords: colon cancer, right hemicolectomy, morbidity, mortality

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POST-OPERATIVE PAIN AS A TOOL FOR ASSESSMENT OF RADIOFREQUENCY ABLATION EFFICACY IN OSTEOID-OSTEOMA

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Background: Osteoid-osteoma (OO) is one of the most common benign bone-forming tumors that occurs in young patients and never becomes malignant. The most frequent symptom is severe night pain which is relieved with nonsteroidal anti-inflammatory medications (NSAID). It can resolve without treatment, but surgical excision is necessary with OO associated pain that is not responsive to conservative treatment. **Objective:** The aim of this paper is to evaluate the reduction of pain using the Visual Analogue Scale (VAS) after OO radiofrequency (RF) ablation under fluoroscopic control, 24 hours post-operation, 1-month post-operation and 3-months post-operation. **Material and methods:** Our series consists of 9 interventions in OO localized in the pelvic limb (5 femur, 4 tibia), all cases were confirmed by CT scan, X-rays and NSAID treatment test was performed. These were operated by RF ablation by the same team of surgeons at Regina Maria hospital in Târgu-Mureș between 2021-2022. Patients were all male between 18 and 30 years old. Minimal invasive introduction of the RF probe was made through skin, muscle in a pre-drilled hole in the bone. The position of the probe was fluoroscopic controlled then direct ablation with Medtronic Cool-tip™ RF ablation system was performed with 2-3 times of 7 minutes cycle of RF activation. Post-operation, no painkillers were administered to evaluate the effect of the ablation on night pain, and total weight bearing was allowed 6 hours after surgery. We used the VAS pain scale to evaluate pre-operative pain, post-operative pain 24 hours, 30 days, and 90 days. **Results :** Pre-operation the pain level was at around a mean of 5.5 on VAS scale (range 3-8), mean post-operative pain was at 2.2 (range 0-3) at 24 hours, 3.5 (range 2-5) at 30 days and 1.5 (range 1-3) at 90 days. All patients resumed physical activities after 24 hours and sports activities after 30 days, no complications noted. **Conclusions:** We considered that the decrease of pain was significant, stayed low for 3 months and that the RF ablation of the OO is a safe reproducible and efficient surgical treatment. Moreover, the disappearance of symptoms is good indicator of the efficacy of the treatment which in accordance with literature data that shows that RF ablation is safe, effective, affordable, in the treatment of OOs. Even if this method is new and relatively unknown in Romania, it seems to be the minimally invasive treatment of choice for these bone tumors.

Keywords: Osteoid osteoma, Radiofrequency ablation, Bone tumor

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EMERGENCY GASTRIC NEOPLASM RESECTION

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Background: Gastric cancer is one of the most common malignancies in the world and in some countries accounts for half of all cancers. It is the fifth most diagnosed and the third most lethal malignancy in the world. **Objective:**

The main objective of the study is the retrospective evaluation of the management of patients with emergency gastric neoplasm resection in the General Surgery Clinic 1 within the Târgu Mureș County Emergency Clinical Hospital and their comparative analysis with patients with chronic gastric neoplasm. **Material and methods:** This study includes hospitalized patients between January 2017 and December 2021. We analyzed the following parameters: year of hospitalization, age, sex, environment, emergency, length of hospital stay, length of hospital stay in intensive care, primary diagnosis, secondary diagnosis, surgery, postoperative status, TNM staging, laboratory data. **Results :** Compared to the years 2019-2021, in 2017 were the most hospitalized patients with gastric neoplasm with a percentage of 38.5%. The following results apply to all patients in the group regardless of year. The most commonly affected are men, 121 out of a total of 179 patients, the predominant age being 60-69 years, 38%. Of the patients admitted to the ICU, 27.5% of the patients presented in the emergency room and 27.3% of the patients were chronic. Analyzing the whole group, 34% were hospitalized with a diagnosis of malignant tumor that exceeds the stomach. Of both patient groups, 37.9% in emergency and 46.6% in chronic patients had hypertension. Most patients experience difficulties, poor nutrition (60%) and anemia (60%). The most common tumor staging is T4N3 (T4-the tumour penetrates the subserosal tissue without invasion of the visceral peritoneum or adjacent structures, N3-metastazis in 7 or more regional lymph nodes). **Conclusions:** We found that the elderly males are most often affected by gastric neoplasm. Approximately ¾ of the patients did not require hospitalization in the intensive care units, we can deduce that postoperative evolution was favorable; probably the postoperative complications were limited by a surgical technique performed in optimal conditions. Obesity is present in only 5% of patients. This may be due to the fact that most patients are elderly and generally face inappetence.

Keywords: gastric neoplasm, emergency, resection

ABDOMINAL RADICAL TRACHELECTOMY - A FERTILITY SPARING PROCEDURE FOR EARLY STAGES CERVICAL CANCER

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Background: Cervical cancer is the most frequent type of cancer encountered in pregnant women, with an incidence of 0.8-1.5 cases/10000 births. **Objective:** Radical trachelectomies performed by abdominal, vaginal or minimally invasive techniques are fertility-sparing alternatives to radical hysterectomy for young patients with early-stages cervical cancer. These procedures can be performed also during ongoing pregnancy with encouraging results. In this presentation we analyze the current data on abdominal radical trachelectomies performed during pregnancy. **Material and methods:** A literature research on the PubMed, Medline and Google Scholar has been performed, looking for all articles on abdominal radical trachelectomy (ART) published in English or French up to January 2022. Our study presents a literature review, but also our hospital experience. **Results :** A total of 27 cases of ART during pregnancy have been performed, taking into account also the 5 cases operated by our team. Of those patients, 25 were operated by open surgery (92%), and only 2 (8%) by laparoscopy. The most frequent histological type was squamous cell carcinoma, followed by adenocarcinoma and lymphoepithelial carcinoma. Four procedures (14%) have been performed in the first trimester of pregnancy (7-13 gestational weeks), 22 of them (81%) during the second trimester (14-22 gestational weeks) and one case (4%) during the third trimester (32 gestational weeks) concomitant with a caesarean section. Of these patients, 77% (21 women) delivered through elective caesarean section live newborns, and 23% (6 women) have experienced abortion shortly after ART. Regarding oncological outcome, during the follow-up period (6-2 40 months), none of the 27 patients (100%) reported cancer recurrences. **Conclusions:** ART must be offered as possible option for pregnant patients with early stages cervical cancer. The procedure might help these patients to avoid the triple losses of a desired pregnancy, of their fertility and of motherhood. However, ART does not represent the current standard of care, and more evidence on its effectiveness is needed, also because the use of chemotherapy in pregnancy for cervical cancer patients is still controversial.

Keywords: cervical cancer, abdominal radical trachelectomy, pregnancy

THE TOTAL LAPAROSCOPIC RADICAL HYSTERECTOMY (TRLH) – THE REINTRODUCTION OF AN ABANDONED PRACTICE AND THE IMPORTANCE OF QUESTIONING OUR HYPOTHESES – HOW SCIENCE MAY SOMETIMES LEAD US ASTRAY

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Background: Cervical cancer represents one of the most common cancer and cause of cancer-related death for women worldwide, demanding an adequate treatment plan. The scientific community finds itself in an ongoing deliberation regarding the determination of the proper course of action, debating between an open abdominal radical hysterectomy and a minimally invasive approach. The total laparoscopic radical hysterectomy, TLRH, accompanied by pelvic lymphadenectomy has been an acclaimed practice for over twenty years. However, a 2018 published manuscript, 'the LACC trial', exhibited increased recurrence and mortality rates when electing this practice. Recent studies, the 2020 'SUCCOR Study' and 2022 'SUCCOR cone study' campaign for the preservation of this technique, with few adjustments. It is considered that repealing the usage of the uterine manipulator, alongside with implementing a protective vaginal closure or practicing a prior conization, may lead to obtaining disease-free survival similar to that of open surgery. **Objective:** The aim of this retrospective study is to advocate for the practice of TLRC, as it comes with compelling advantages: reduced hospitalization time, reduced intraoperative blood loss and need for analgetic medicine, swift recovery, as well as a significant cosmetic result. **Material and methods:** We practiced TLRH on 8 female patients diagnosed with IA2 and IB1 cervical cancer (FIGO 2009), clinically staged using transrectal echography and/or pelvic and abdominal MRI. Some of the participants previously underwent conization. **Results :** Mean age was 43,3 years (range 32-55) while the mean BMI was 24 kg/m2. Patients over 40 years of age sustained bilateral oophorectomy, while those who were younger have had their ovaries preserved. The mean operative time was 249 minutes (range 230-320) and the approximative blood loss between 100 and 250 ml. No intraoperative complications have occurred. Postoperative recovery has been generally favorable, with the removal of the bladder catheter in day 4, and of the abdominal drain in day 5-6. The postoperative complications that we have encountered are bladder disfunction (4 patients), uretero-vaginal fistula (1 patient) and vaginal vault dehiscence, which needed re-suturing. The total number of removed lymph nodules varied between 24 and 62 (average of 41,2). All patients presented clear resection margins. 7/8 patients are currently alive and free of disease. Two out of 8 patients followed postoperative adjuvant radiotherapy, while 1 patient has recurred and died of disease. **Conclusions:** In conclusion, TLRH is a safe procedure with abounding benefits. Prior conization, avoidance of the uterine manipulator and preventing tumor spreading maneuvers promote attaining similar outcomes to open surgery.

Keywords: Total Laparoscopic Radical Hysterectomy (TRLH), Cervical cancer, Uterine manipulator, Gynaecological cancer

PREGNANCY INDUCED HYPERTENSION: A CAUSE OF PRETERM DELIVERY?

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Background: A preterm delivery is considered to take place before the 37th week of amenorrhea and is an important health issue, globally associated with a great risk of fetal morbidity and mortality. Most frequently, the dangers of the prematurity are represented by the pathologies that could occur because of the lack of organ maturity in preterm newborns, such as respiratory problems, cerebral palsy, retinopathies with loss of vision etc. Some of the multitude of causes of the preterm births are the hypertensive disorders that could occur, being mainly represented by preeclampsia or the more severe forms: eclampsia and HELLP syndrome. They tend to complicate approximatively 5-10% of the pregnancies and lead to around 30000 maternal and fetal deaths annually worldwide. **Objective:** This study focuses on the correlation between pregnancy induced hypertension, pre-existing or aggravated hypertension, essential hypertension complicated pregnancies and the incidence of premature births. **Material and methods:** By definition, the pregnancy induced hypertension is represented by elevated systolic blood pressures of at least 140mmHg and/or elevated dyastolic blood pressures of at least 90mmHg, which occur after week 20 of amenorrhoea in a previously normotensive patient. In preeclampsia,

besides hypertension, a proteinuria ≥0,3g/24h is present. Eclampsia is the complicated preeclamptic patient with tonic-clonic, focal or multifocal seizures. HELLP syndrome is defined by the triad: hemolysis, increased liver enzymes and thrombocytopenia. The study included a total of 3365 births between 01.01.2020-31.12.2021, in the Obstetrics and Gynaecology Clinic of the County Emergency Hospital Târgu Mureș. Each patient's file was checked for gestational details, such as gestational age, type of birth, as well as for risk factors and maternal and fetal complications, including eclamptic seizure and HELLP syndrome. **Results :** Among the total numer of births, 2967 (88,17%) were on term and 398 (11,83%) were premature. Out of these, there were a total of 197 (5,85%) hypertension associated pregnancies identified: 145 (73,60%) were on term and 52 (26,40%) preterm. The correlation between the occurrence of hypertensive disorders during pregnancies and the premature deliveries was proven to be statistically positive ($p<0.0001$, Chi square test). **Conclusions:** The hypertensive disorders that occur during pregnancies have a negative maternal and fetal impact on the pregnancy leading to an increased risk of preterm delivery. There is a higher rate of caesarean births than vaginal births in pregnancy induced hypertension cases. Preeclampsia, eclampsia and HELLP syndrome are an important cause of preterm delivery.

Keywords: pregnancy induced hypertension, Preterm delivery, hypertensive disorders, birth

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DO THE RISK FACTORS INFLUENCE THE MALIGNANCY OF GASTROINTESTINAL STROMAL TUMORS-GISTS?

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Background: The aim of the present study was to evaluate effect of possible risk factors on malignant transformation of gastrointestinal stromal GIST tumours. Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract, accounting for 80% of all digestive mesenchymal tumors. In epidemiological studies of GISTs, the estimated average age of diagnosis is in the sixth decade of life with a frequency of occurrence ranging from 6.8-14.5 cases per million population. Therefore we comprehensively investigated age and gender as independent risk factors for GIST. Older age,H. pylori are risk factors for several abnormal histopathologic changes. Obesity is a serious health problem worldwide where >1.9 billion adults are overweight, of which 600 million are obese. In terms of associated risk factors, the current study assessed age, BMI, gender as risk factors for abnormal histopathologies. **Objective:** This study focuses on the correlation between malignant transformation and possible risk factors such as age, gender, background, BMI, other associated pathologies. **Material and methods:** This study is a retrospective study,including data of 47 patients from the Surgery Department,Mures County Clinical Hospital,from 2004-2021 with gastrointestinal stromal GISTs.Statistical analysis was performed using EXCEL and MINITAB,differences were considered significant at a p-value less than 0.05. **Results :** A number of 47 patients of which 55% were men and 45% were women, 83% were over 50 years old, and 51% were from urban areas, 49% from rural areas, 45% of them had other associated digestive pathologies and only 11% were smokers. Considering the p-value = 0.44, we can say that there is no correlation between risk factors and the occurrence of gastrointestinal stromal GISTs. **Conclusions:** As a result of this study, the presence of risk factors such as age, sex, background, smoking, associated diseases, BMI, does not influence the occurrence of gastrointestinal stromal GIST tumours, as other studies have shown.

Keywords: Gastrointestinal stromal tumors-GISTs, risk factors, age, gender

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THE INFLUENCE OF THE CIRCADIAN RHYTHM OVER CHILDBIRTH DELIVERIES. CAN WE FIND A PATTERN?

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Background: Circadian system, controlled by the suprachiasmatic nucleus through the secretion of melatonin and influenced by the dark/light cycles, controls a wide variety of functions in living organisms.Besides the well-known sleep-wake cycle, chronobiology researched the influence of the circadian rhythm over metabolism, hormone secretion, pregnancy and delivery timing. Recent studies proved that melatonin stimulates the activity of the uterus noradrenaline-induced smooth muscle contractions.Therefore, melatonin in combination with noradrenaline potentiated contractions. These results may indicate that melatonin plays a role in the timing of labour. **Objective:** The peak of melatonin secretion (which is at night, in the dark phase) should coincide with the highest rate of

spontaneous deliveries.Proving this theory within the Obstetrics and Gynaecology Clinic of the County Emergency Hospital from Targu-Mures was our main objective. **Material and methods:** We examined 2021 registers (from 1st of January to 31st of December) of the clinic and collected the data that included: time of delivery, delivery method, complications. We split the day into 3 intervals as mentioned: interval I between 8:00-13:00, interval II 13:00-00:00 and interval III between 00:00-8:00 o'clock. **Results :** Out of 1370 deliveries, 1218 newborns were mature (88.9%) and 152 were premature (11.1%). Within the mature deliveries, 569 were natural spontaneous (46.71%), 355 were C-sections (29.14%) and 294 were labors with oxytocin (24.14%). In the interval III, which coincides with the dark phase, 51.61% were spontaneous natural deliveries, 20.49% were C-sections and 20.75% were with oxytocin. Within the premature deliveries, in the dark phase there were 51.61% spontaneous deliveries, 46.16% C-sections and 3.23% with oxytocin. The only interval where C-sections were predominant is the first one (with 41.53% of the interval I of mature deliveries consisting of C-sections and 72.97% of the interval I premature deliveries being C-sections aswell. Analyzing the main causes for these many C-sections, 35.38% of the interval I mature deliveries C-sections were performed for cicatricial uterus, 10.77% for cephalopelvic disproportion, 10% for fetal malpresentation, with fewer numbers for other causes. **Conclusions:** The dark phase of the cyrcadian rhythm, which is interval III has the highets rate of natural spontaneous deliveries, for both mature and premature labors, while the first interval, as expected, had the highest rate of C-sections. The results for the third interval indicates that there is indeed a strong relation between the melatonin secretion and spontaneous deliveries, for both mature and premature labours, proving that the uterine labor contractions are more likely to start in the dark phase.

Keywords: circadian rhythm, timing, spontaneous delivery

CLINICAL MANAGEMENT IN SEVERE PREECLAMPSIA

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Background: Severe preeclampsia (SP) is one of the most frequent pregnancy complications recorded among the clinical cases at the Intensive Care Unit (ICU), in the 3rd level Perinatal Center, Chisinau, Republic of Moldova. Being registered at the gestational age over 20 weeks of gestation (w.g.), it may persist for 4-6 weeks post-partum. SP requires rigorous diagnosis and treatment, the most important algorithm decision being the timely termination of pregnancy by cesarean section (C-section). **Objective:** The aim of the study was to evaluate the management of clinical cases diagnosed with SP. **Material and methods:** A retrospective descriptive study was performed on a group of 1745 pregnant women with a term over 20 w.g., admitted in the ICU during 2015-2021 with the diagnosis of SP. **Results :** The rate of SP was relatively constant in the range of 13.2-15.1% in 2015-2019 with a significant increase in 2019 (18%) and 2021 (19%). The average age of the patients was 27±6,9 years old (y.o.), the most complicated cases being reported in women under 17 y.o. and over 43 y.o. The pathology was predominantly determined at primiparous (54,2%). Pregnant women with SP presented symptoms like: increased BP values ?160/110 mmHg and headache (100%), gastric pain (57,9%); blurred vision (73%), nausea or vomiting (82,7%). Proteinuria was reported in 84,9% cases and intrauterine growth restriction in 38,9% cases. The rate of severe complications is higher during the last 3 years, such as eclampsia (1,8%), HELLP syndrome (7,9%), dilated peripartum cardiomyopathy, circulatory shock with pump deficit, serious arrhythmias, ALI/ARDS, cerebral edema, re¬versible posterior leukoencephalopathy syndrome, cerebral vascular accidents, acute renal failure. Several associated diseases were determined, such as: chronic hypertension, diabetes miellitus, chronic pyelonephritis. All patients received polymodal intensive therapy, with multiple organ dysfunctions syndrome or multiple organ insufficiency. Prophylactic treatment with magnesium sulfate was indicated in all cases. According to literature, there is absolutely no benefit to the mother continuing pregnancy once SP is diagnosed, that is why the pregnancies were managed by an emergent C-section, during first 24 hours of management, in all mentioned cases. **Conclusions:** In recent years, SP is predominantly seen at primiparous, the most complicated cases being determined at the age under 17 y.o. and over 43 y.o. SP is a serious problem, often associated with a number of complications, the basic treatment being the emergent delivery, more often by C-section.

Keywords: severe preeclampsia, eclampsia, HELLP syndrome, C-section

ASSESSING THE PSYCHOLOGICAL IMPACT OF SURGICALLY TREATED BREAST CANCER PATIENTS USING A MODIFIED HOSPITAL ANXIETY AND DEPRESSION SCALE

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Background: Globally, breast cancer is the most frequently diagnosed oncologic pathology combined for both males and females, with 2.3 million new cases diagnosed in 2020. For the female sex, this unfortunate diagnosis and mutilating treatment predispose the patient to elevated levels of psychological distress. **Objective:** The aim of this study is to compare the levels of the two key facets of psychological distress: anxiety and depression, in patients treated with different surgical techniques. **Material and methods:** In this study, 53 female patients were enrolled, surgically treated at the County Hospital of Târgu Mureș in 2018 and 2019 with mastectomy (bilateral or unilateral) or quadrantectomy (breast-conserving surgery). The questionnaire used to identify and quantify the anxious and depressive states was a modified Hospital Anxiety and Depression Scale (HADS), a frequently used self-rating scale developed to assess psychological distress in non-psychiatric patients. An adapted version of the questionnaire was used for telephonically contacting the patients. The respondents were asked to choose the best option that characterized their disposition in the past week. **Results :** The mean age of the patients was 61.96. Out of the total of 53,38 patients were treated with quadrantectomy (Q.), 11 with unilateral mastectomy (U.M.), and 4 with bilateral mastectomy (B.M.). Overall, 42 patients showed no anxiety, 8 patients presented with mild levels of anxiety and 3 with severe. As for depression 44 without, 6 with mild levels, 2 moderate, and one severe case. The analysis of the responses demonstrated that there was no statistically significant effect of the type of surgery on anxiety (Q. 4,74±3,39; U.M. 6,00±3,71; B.M. 5,50±3,11 and p=0.4389) and depression (Q. 3,39±3,07; U.M. 5,64±5,84; B.M. 2,00±2,45 and p=0.4321) symptomatology occurrence. **Conclusions:** The results indicate that the type of surgical technique performed in order to remove the cancerous lesion had no statistically significant effect concerning the occurrence of psychological distress in breast cancer patients. Perhaps a higher sample of patients and an unmodified, self-rating version of HADS would provide a statistically significant and unbiased result.

Keywords: mastectomy, breast conserving surgery, HADS

INFLUENCE OF VITAMIN D AND MAJOR CARDIOVASCULAR RISK FACTORS IN PERIPHERAL ARTERIAL DISEASE IN VASCULAR SURGERY

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Background: Recently, many studies have suggested that vitamin D may be directly related to peripheral arterial disease, with its risk increasing with age and exposure to major cardiovascular risk factors. Peripheral arterial disease refers to the stenosis, occlusion or aneurysm of any arterial territory, except the territory of the coronary and cerebral circulation. **Objective:** The aim of this study is to analyze the plasma levels of 25-hydroxyvitamin D and other comorbidities in patients with peripheral arterial disease for which has been performed a surgical treatment. **Material and methods:** We retrospectively analyzed 40 patients, including 30 men and 10 women with peripheral arterial disease who were treated in the vascular surgery clinic in Târgu Mureș. **Results :** The mean age of patients is 64.73 years (SD: 8.38), the average age for men is 63.83 years and for women 67.40 years, and the percentage by sex is 75% men and 25% women. The distribution of the pathology localization in our group is at the level of the femur-popliteal axis 70%, at the common femoral artery 12.5%, at the popliteal artery 7.5%, at the common carotid artery 5% and at the level of the common and internal carotid artery, also 5%. The mean value of vitamin D in these patients is 10.30 ng /ml (SD: 4.59) with a minimum of 4.87 ng/ml and a maximum of 24.10 ng/ml. Regarding the major cardiovascular risk factors, 88% of patients have hypertension (68% are men and 20% are women), 73% are smokers (55% are men and 18% are women), 25% have diabetes (18% are men and 7% are women), and 33% have a BMI > 25 kg / m² (23% are men and 10% are women). **Conclusions:** It was observed in the group of patients with peripheral arterial disease, that the plasma level of 25-hydroxyvitamin D is considerably lower than the normal value of 30 ng/ml, the frequency of the disease is 3 to 1 in favor of men, the predominant location is in the femoral-popliteal axis and cardiovascular risk factors are present in different

percentages in both sexes.

Keywords: vitamin D, peripheral arterial disease, stenosis, hypertension

THE CORRELATION BETWEEN THE PRESENCE OF NEUROLOGICAL DISEASES AND URGE URINARY INCONTINENCE

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Background: Urinary incontinence is not a serious condition, but it has a strong socio-economic and quality of life impact on patients, the incidence being strongly influenced by the percentage of patients seeking help, the symptoms being non-specific. Urinary incontinence can manifest itself by the loss of a few drops of urine or even complete emptying of the bladder, and these symptoms can occur daily, even several times during the same day or occasionally. Routine tests do not help to diagnose these patients, gold standard being urodynamic tests. **Objective:** The aim of this study is to examine whether neurological diseases influence the occurrence of urinary incontinence. **Material and methods:** This study is a retrospective and observational study, including data of 67 patients from the Urology department of the Tg Mures County Hospital, from 2019-2022 with urinary incontinence.Statistical analysis was performed using EXCEL and MINITAB, the differences were considered as having statistical significance at a p parameter value less than 0.05. **Results :** The 67 patients were divided according to sex: 45% were female and 22% were male. They were also divided according to the presence and absence of symptoms: 40% had symptoms, 27% had no symptoms. The percentage of patients with neurological diseases was also calculated and was 20%, of which 4 patients had urge urinary incontinence.Considering the p-value = 0.002, we can say that there is a correlation between neurological diseases and urge urinary incontinence. **Conclusions:** As a result of this study, the presence of neurological diseases influences the occurrence of urinary incontinence, especially urge incontinence.

Keywords: urge urinary incontinence, neurological diseases, urodinamic tests

TIBIAL EMINENCE FRACTURE IN CHILDREN

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Background: First described by Poncet in 1875, tibial eminence fractures are bony avulsions of the anterior cruciate ligamant (ACL) from its insertion on the intercondylar eminence of tibia. **Objective:** Purpose of this review is to put together solid evidence related to intercondylar eminence fractures in children. **Material and methods:** This research was conducted using PubMed and Google Schoolar filtering articles by data, 06.03.2022. Key words used: tibial fracture, tibial eminence, tibial spine, child, pediatric. **Results :** Fractures at this level occur most often in children aged 8 to 14 and are relatively rare. Because of partially ossified tibial eminence in skeletally immature patiens, the fracture is given priority over the ACL tear during sport. Therefore, fracture of intercondylar eminence in paediatric patients corresponds to ACL rupture in adults. Gold standard investigation is laterolateral knee radiograph, follow up with CT (provides details of bone structures) and MRI (provides details of soft tissues). MAYERS and MCKEEVER classify fractures into 3 types: type 1 is non-displacement and treatment is non-surgical. Type 2 represents displacement only in the anterior part, if displacement is less than 5 mm, it is treated non-surgically and if displacement is more than 5 mm, it is treated surgically. Type 3 represents complete displacement and is treated surgically. Lubowitz has classified type 3 into 3A (only the insertion part of ACL) and 3B (entire spine). Zaricznyj added type 4 which assumes comminuted fracture present. Surgical approach can be done by ORIF or ARIF. Most common complications are arthrofibrosis, instability, nonunion, malunion. **Conclusions:** Pediatric patients with intercondylar eminence fracture have good functional outcomes following treatment appropriate to the fracture type.

Keywords: tibial eminence,, fracture,, children.

A NARRATIVE REVIEW OF THE INFLUENCE OF OBESITY ON CLINICAL OUTCOMES FOLLOWING TOTAL KNEE ARTHROPLASTY

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Background: Increased prevalence of obesity has led to an increase of total knee arthroplasties (TKA) numbers in patients with a high body mass index (BMI). BMI is generally known to be a prognostic factor in multiple operations, however, a connection between BMI and clinical outcomes of TKA is still a matter of debate. **Objective:** Understanding that factors, such as obesity, can affect functional outcomes of surgery, provides patients with a better probability of positive prognostic performance and reduces costs of clinical care. In addition, patients are being provided with more realistic expectations about surgery outcomes, which prepare them to overcome postoperative recovery difficulties. We aim to evaluate BMI effect at different values and assess correlations between BMI and TKA. **Material and methods:** Electronic databases (pubmed, biomedcentral) were systematically searched for studies who investigated the relationship between BMI and primary TKA, using some keywords such as "total knee arthroplasty", also "TKA" and "BMI". In this narrative review, 17 studies were used, which included clinical outcomes of TKA in patients with different BMI values. For the BMI cutoff we took in consideration the following complications : poor functional outcomes, increased risk of perioperative complications and failures/revisions of the prosthesis, knee activity scor, postoperative Hb levels **Results :** From a total of 17 studies, 23,52% took a cutoff of 40 BMI to separate high-risk from low-risk patients, 23,52 % took a cutoff of 30 BMI, 5.88% of 25 BMI, 29.41 % showed no difference or no significant difference in outcome and 5.88% showed better results, smaller drop in postoperative Hb levels and patients reduced their BMI after operation. **Conclusions:** Some studies concluded similar results of TKA in obese and normal ranged BMI patients, whereas others have established that obesity has a negative influence on TKA outcomes. Additionally, there is no definitive cutoff of BMI that accurately separates high-risk from low-risk patients. Longer term follow-up studies of obese patients are required to be conducted in order to provide patients with a clearer evidence of this problem, increasing success rates of total knee arthroplasty, and to provide them with successful joint replacement surgeries.

Keywords: TKA, BMI, Total knee arthroplasty

BEST AUTOGRAFT CHOICE IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION: A NARRATIVE REVIEW OF BONE-PATELLAR TENDONE-BONE VERSUS QUADRUPLED HAMSTRING AUTOGRAFTS.

Maria-Paula Dragus[1], Teodora Drelciuc[1], Antonella Drăghici[1], Marius Octav Russu[1]

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Background: Most frequently used autografts for Anterior Cruciate Ligament Reconstruction (ACLR) are four-strand hamstring tendon (4S-HT) and bone-patellar tendon-bone (BPTB), but significant controversy exists about which graft is superior. **Objective:** Aim of this study was to systematically review the literature to compare outcomes of patients undergoing primary ACLR with bone-patellar tendon-bone versus four-strand hamstring tendon autograft. **Material and methods:** A systematic literature search was performed in PubMed/MEDLINE to identify published articles of randomized controlled trials comparing clinical outcomes of 4S-HT and BPTB autografts in patients undergoing primary ACLR. Articles were included if they had a minimum follow-up of two years, involved both male and female patients, and were written in English. Subjective and objective outcomes of interest included kneeling pain, return to preinjury activity, instrumented laxity, and Tegner, Cincinnati, and International Knee Documentation Committee (IKDC) scores. Graft failure, additional surgery, and complications were assessed. **Results :** Eleven studies with a total of 711 patients met inclusion criteria. Of these studies, 7 were level of evidence I and 4 were level of evidence II. Mean follow-up was 5.45 years (range, 2-17 years). One of 4 studies reporting on anterior knee pain, and 7 of 11 that recorded pain with kneeling, found it more frequently among BPTB patients. Increased laxity on arthrometer testing was noticed in 4S-HT group in 3 out of 11 studies. Only one of 11 studies found significantly better IKDC scores in 4S-HT group. Activity level estimated by Tegner activity score was increased in BPTB group in 2 out of 5 studies. Radiographic evidence of osteoarthritis noted significantly increased rates in BPTB patients in 2 out of 6 studies. No study reported a significant difference

regarding graft failure between 4S-HT and BPTB autografts. **Conclusions:** Both autograft choices can provide satisfactory results in ACLR outcomes. However, a significant number of studies suggest greater kneeling pain among BPTB group. Autograft choice in ACLR should be based on many criteria including the agreement between patient and surgeon, pain tolerance, activity level and recovery time.

Keywords: anterior cruciate ligament reconstruction;, patellar tendon;, hamstring tendon

NUTRITION AND DIETETICS

CHILDHOOD OBESITY: PREVENTION, STRATEGIES AND MANAGEMET

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Background: WHO reports at the worldwide obesity since 1975 has been tripled. Worldwide figures regarding overweight and obesity related afflictions indicate an aggravation of the phenomenon. Apparently, obesity is preventable, thus public health management means should help deal with the issue. **Objective:** Our research aims to summarize what it is known today as scientific facts regarding prevention and treatment in childhood obesity. **Material and methods:** We have summarized, and organized articles and studies related to the topic published within the 2004-2022. **Results :** We have identified a significant number of articles regarding the topic. Studies done at this point prove that overweight and obesity are preventable. Some studies prove that physical activities, supportive environments and healthy food are significant preventive factors. Evidence proof obesity causes diseases, such as cardiovascular pathology, diabetes, musculoskeletal disorders and some cancers. Studies are pointing out that in most cases childhood obesity are more of exogenous origin like diet, lifestyle and habits and less of endogenous causes. Genetic inheritance only predisposes to obesity, faulty lifestyle and sedentary are the decisive factors in the onset of the disease. **Conclusions:** Implementing a plan consisting in nutritional education and physical activities during childhood may by the key to changing old habits and preventing obesity. Early detection and treatment of obesity will help to prevent mortality and morbidity increase, overweight adults based on childhood obesity and the high healthcare costs associated to them.

Keywords: nutrition, obesity, childhood, overweight

KETOGENIC DIETS AS ADJUVANT FOR EPILEPSY THERAPY

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Background: Recently the ketogenic diets have been rediscovered for epilepsy treatment after a long period of neglect. At the beginning of the 20'th century treatments for epilepsy were based on fasting and starvation and a variety of drugs on a trial-and-error basis. Since 1963 Carbamazepine became the main treatment for epilepsy and diets and ketogenic diets use have greatly diminished. This changed in 1994 because of the media coverage of an epilepsy treatment case using ketogenic diet. Ever since, the use of ketogenic diets became more and more a subject of debate and research. **Objective:** Our research is a summary of what it is known today regarding ketogenic diets use in epilepsy treatment. **Material and methods:** We have summarized, and organized articles and studies related to the topic published within the 1920-2022 timeframe. **Results :** We have identified a significant number of articles regarding the topic. Most articles review other findings and debates. Just a few of them include actual studies done with proper scientific method. The number of study subjects is low, ranging from less than 5 up to 63 patients, we haven't found cohort studies. **Conclusions:** Although studies suggest that ketogenic diet under medical supervision can greatly improve drugs treatments efficiency and seems to become a widely used approach internationally, a large, international, cohort study may be needed to properly prove this.

Keywords: ketosis, epilepsy, nutrition

EVALUATION OF A NUTRITION CARE PLATFORM DEVELOPED FOR THE ROMANIAN DIETITIANS

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Background: According to many studies, the management of metabolic disorders requires the following of a healthy lifestyle, which includes dietary intake monitoring. For nutritional analysis, in the United States, USDA recommends software like "SweetWARE" or "MenuSano", but in Romania, there is no official nutritional analysis software yet. **Objective:** For this study, we are aiming to evaluate the newly developed web platform called "Nutrition ARTS" (created by George Vrapcea, graduate student at UMPhST from Târgu Mureș), through the feedback and suggestions received from the current users. **Material and methods:** A questionnaire was sent via

email to the dietitians and the students to become dietitians who have used Nutrition ARTS. Participants completed a questionnaire designed mainly to evaluate the way they appreciated the user experience of the web platform (what benefits they had or what difficulties they encountered) and to suggest new features. **Results :** Most respondents felt that they were familiar with the use of the site and gave it an overall 5-star rating, even after a quite short time using it. Some of the most useful features selected were the personalized meal planner and the different types of patient records. The major advantages observed were both the easiness and the short period of time required for creating diets and calculating nutritional needs. One of the main suggestions for future platform development was the ability to save template meal plans that can be adjusted according to the health profile of different patients. Most respondents declared that they did not encounter any difficulties, but some of them had problems with finding certain foods in the database. Everyone stated that they would consider using Nutrition ARTS in their career and recommend it to other dietitians. **Conclusions:** Taking into consideration all the feedback and suggestions received through the questionnaire, we can conclude that this web platform had a positive impact on the work of its users and there is a lot of potential for future developments and updates.

Keywords: nutritional analysis, meal planner, patient records, web platform

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THE EFFECTIVENESS OF ONLINE NUTRITION WEBINARS ON AN ADULT POPULATION GROUP AND ITS ADHERENCE TO DIETARY RECOMMENDATIONS

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Background: It is known that following pandemic time, people have increased interest in online courses. I propose to check their adherence to a nutritional intervention through nutrition webinars, as well as the effectiveness among an adult population segment. The study included the organization of the online nutrition webinar (90 min), an event called "How to have a harmonious lifestyle through a balanced diet. In terms of qualitative indicators following the webinar, I measured: the degree of satisfaction of the participants in the nutrition webinar and the most important behaviors changes after 3 months. **Objective:** The study aims to assess the share of participants who have changed their eating habits for the better. As future dietitian in private practice, I also aim to assess the sustainability of this type of service and the possibility of developing a standardized online nutrition intervention scheme. **Material and methods:** The study is designed as a 3-step process. A sample of 130 people agreed to participate, then had to complete an Online Food Assessment Questionnaire (43 questions), a Standard Food Journal (7 days), both before the nutrition webinar. Second, they completed a Nutrition Webinar Evaluation Questionnaire (7 questions) over the next 24 hours following the webinar and the final step is to complete a Food Journal (7 days) 3 months later. The completion of the questionnaires and the observational study were carried out during January-April 2022. The data included in this analysis was processed using Microsoft Office Excel 2007 and Google Forms. **Results :** Following the completion of the online questionnaire for the evaluation of eating habits, there were 130 total participants, 98.4% women and 1.6% men. From the respondents, 77.6% mentioned the presence of bad habits as a decisive factor that prevents them from having a healthy lifestyle, out of which 84.9% stating that these habits refer to unbalanced diet. **Conclusions:** The study is now at the third (final) stage. The partial conclusions we can assess at the moment, show a high interest in participating to online nutrition webinars among people who want a healthier lifestyle. The degree of satisfaction among the participants was very high (95%), meaning this type of nutrition education tool is highly appreciated and there's is a great potential to be efficient in behavior changing, therefore it is worth continuously improving the quality of online nutrition intervention.

Keywords: Nutrition webinar, Online nutrition intervention, Online nutrition

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STUDIUL PRIVIND CONTINUTUL SI CONSUMUL APEI POTABILE IN TARGU-MURES

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Background: Corpul uman este format din apă într-o proporție de 60% iar dacă ne referim la copiii mici procentul creste la 75% pe când la vârstnici scade la 50%. Cea mai mare proporție a organismului uman este reprezentată de apă, de aici și interesul crescând al specialiștilor în a defini importanța apei în organism și a riscurilor pe care le prezintă deshidratarea. Omul poate trăi fără mâncare aproape o luna, dar fără apă supraviețuirea nu este posibilă

mai mult de 3 zile. **Objective:** Scopul studiului este creșterea încrederii consumatorilor în calitatea apei potabile, ceea ce ar putea contribui la reducerea utilizării ambalajelor din plastic, respectiv reducerea deșeurilor din plastic, precum și a emisiilor de gaze cu efect de sera și ar putea avea un impact pozitiv atât în materie de atenuare a schimbărilor climatice, cât și asupra mediului în ansamblu.In acest sens obiectivele studiului au fost: cercetarea obiceiurilor de consum privind apa potabilă a populaţiei din aria de operarea a COMPANIA AQUASERV S.A. studiul organoleptic și microbiologic al diferitelor mărci de ape îmbuteliate vs. apa de la robinet **Material and methods:** metoda de cercetare utilizată este ancheta pe bază de sondaj. În cadrul cercetării noastre, populaţia investigată este reprezentată de persoanele cu vârsta de peste 18 ani, clienți ai companiei de furnizare apa potabila, arondaţi sistemului de operare din Tg. Mureş **Results :** Cei mai mulţi dintre subiecţi preferă utilizarea apei de la reţea pentru consum propriu, gătit şi spălat (44%) în timp ce 21% din respondenţi folosesc apa de la robinet doar pentru gătit şi spălat. De asemenea există un procent de 14% din populaţie care utilizează apa atât pentru consum propriu, gătit şi spălat dar şi pentru irigat **Conclusions:** Concluziile studiului nostru, cât și analizele efectuate zilnic atât de către compania de apa cât şi de către Direcţia de Sănătate Publică, ne-au întărit convingerea că apa distribuită prin sistemul de distribuție centralizat din municipiul Târgu Mureş este potabilă, respectiv îndeplinește cerințele minime de calitate a apei. Variabilele care pot, într-adevăr, afecta calitatea apei la nivel local, sunt sistemul de distribuție a apei din interiorul blocului/imobilului în care ne aflăm, ori, temporar, în urma unor defecțiuni ce pot apărea la conductele de distribuție Târgu municipale.

Keywords: calitate apa potabila, apa imbuteliata, analize fizico chimice si microbiologice, obiceiuri de consum apa potabila

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NUTRITIONAL MANAGEMENT IN SHORT BOWEL SYNDROME

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Background: Short bowel syndrome reduces digestion and absorption ability after large-small bowel surgical resection or inflammatory bowel disease. Treatment involves special diets with nutritional supplements through parenteral nutrition to prevent malnutrition syndrome and general decompensation. **Objective:** Our study aimed to analyze the nutritional management of patients diagnosed with short bowel syndrome in Surgical Clinic 1 -SCJU Tg.Mures **Material and methods:** We conducted a retrospective study over two years. We included all the patients who underwent small-bowel surgical resection in chronic and emergency settings between January 2020 and December 2021. In addition, we included patients admitted in chronic and emergency settings. We recorded their nutritional status and treatment information and the paraclinical protein status analysis. **Results :** We reported 116 patients who sustained surgery with small intestine resection with an average age of 58 years. A total of 21% (n=35) of patients were diagnosed with short bowel syndrome following the surgical procedure. The most common cause was antimesenteric infarction 80% (n=20). In most cases, nutrition support was provided with parenteral nutrition (Kabiven Peripheral, Glucose 10% + Vitamin complex associated). Albumin levels, on average, increased by 2g/dL, and total protein levels by 3g/dL with enteral nutrition were resumed on average on postoperative day 10. Postoperative surgical complications were recorded in 25% of the cases, with intestinal fistula most common. **Conclusions:** Postoperative nutritional management for patients with short bowel syndrome can be a challenge. Early postoperative nutritional assessment with protein and albumin monitorization is crucial in initiating parenteral nutrition to avoid complications in early and late surgical procedures.

Keywords: short bowel syndrome, enteral nutrition, nutritional status

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NUTRITIONAL MANAGEMENT IN GASTRIC NEOPLASM (CONUT SCORE)

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Background: Nutritional status of the patients is very influential for postoperative complications and the quality of life index. One helpful tool in evaluating postoperative gastric neoplasm patients is The Controlling Nutritional Status (CONUT) score. Evaluation implies monitorization of serum albumin, lymphocyte, and total cholesterol levels. **Objective:** Our study aimed to assess the nutritional status and outcomes (CONUT score) of the patients treated for gastric neoplasm in Surgical Clinic I SCJU Tg.Mures. **Material and methods:** We conducted a prospective study over one and a half years that included patients diagnosed and treated for gastric neoplasm. We

evaluated the nutritional parameters and calculated the CONUT score. In addition, comorbidities and postoperative surgical monitoring were registered. **Results :** We recorded 57 patients with an average age of 52 years. We observed a male predominance of 63% (n=36). In more than half of the patients, 57%, we recorded a low CONUT score (0-4 points). A high CONUT score (5-12 points) was associated with comorbidities, mainly anastomosis fistula and incision infection (p=0.0021). The main surgical procedure was subtotal gastrectomy 69% (n=39), with total gastrectomy associated with a high CONUT score (p=0.0011). **Conclusions:** Quality of life in patients treated for gastric neoplasm is a valuable asset that ensures a rapid recovery with social reintegration. CONUT score can be implemented in assessing the nutritional status of patients with surgical treatment to assess postoperative complications and nutritional management.

Keywords: gastric neoplasm, nutrition status, CONUT score

ASSESSMENT OF NUTRITIONAL STATUS AND DIETARY PATTERNS AS TOOLS FOR PEDIATRIC PATIENT MANAGEMENT

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Background: Impaired nutritional status as well as imbalance between dietary requirements and intake may negatively influence child growth, development and treatment response. **Objective:** The aim of our study was to evaluate the impact of dietary patterns on the nutritional status in a group of pediatric patients. **Material and methods:** We conducted an observational study between July 2021 and March 2022 on 62 pediatric patients (aged 5-18 years), hospitalized in Pediatric Clinic, SCJU Târgu-Mureș. Nutritional status was evaluated using a body composition analyzer (Tanita MC780MA) and a stadiometer, aspects of dietary patterns were assessed by a structured questionnaire addressed to parents. **Results :** From 62 patients, 53.2% were girls and 46.8% boys. The mean age was 11.68 ± 4.29 years, mean Body Mass Index was 19.82 ± 4.23 kg/m2, BMI Z-score was 0.32 ± 1.23, Fat Mass was 11.87 ± 7.02 kg. Based on CDC BMI-for-age Charts, 32% were overweight/obese, 65% had normal weight and 3% underweight. The percentage of overweight/obese boys (41%) was higher than among girls (24%). As for dietary intake, obese/overweight patients consumed daily/very often: refined grains, fruits, vegetables, oils, dairy, sweets, sweetened beverages, eggs, processed meat, butter and cream, while those with normal weight ate daily/very often: fruits, vegetables, refined grains, oils, dairy and poultry. Fish, legumes, whole grains, nuts and seeds were the least frequently consumed food groups by all participants. 40% of obese/overweight children and 25% of normal weight children consumed snacks after dinner. The majority of children mentioned that the preferred snacks during the day, were fruits but also concentrated sweets, while nuts and seeds were consumed mainly by normal weight children. Signs that could suggest emotional eating were more frequent among obese/overweight patients (35%) compared to those with normal weight (10%). Regarding sports, 10% declared 1-2 times/week physical activity and 32% reported no activity at all, mainly due to health conditions. **Conclusions:** The results emphasize that complex, comprehensive nutritional assessment in pediatric care would be a beneficial tool in patient management and treatment response. A skilled dietitian could support the medical team with specific nutritional diagnoses and targeted dietary interventions, in order to improve the nutritional status of pediatric patients.

Keywords: nutritional status, dietary patterns, pediatric patient, body composition

PROTOCOL FOR EVALUATING AND OPTIMIZING NUTRITION IN CERVICAL CANCER

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Background: Almost all cases of cervical cancer are caused by chronic infection with Human Papillomavirus (HPV) leading to inflammation resulting squamous intraepithelial lesions (SIL). It is needed to optimize the nutrition of women at risk, and cervical cancer patients, in order to reduce inflammation and strengthen the immunity. **Objective:** The intentions are to present clinical protocol steps which help adjusting the diet in cervical cancer. **Material and methods:** We studied international and Romanian literature form the last years, in the context of project entitled Program of prevention, early screening, diagnosis and early treatment of cervical cancer Romania Center Region, POCU/826/4/9/138603, code project SMIS 138603. **Results :** Inflammation of the cervix releases free radicals and oxidants, which will cause extensive damage to DNA proteins causing mutations and dysplasia.

The "western diet" is largely composed of processed, red meat, saturated fats, over-refined sugars, and low dietary fibers, and it should be avoided in cervical cancer due to its high inflammatory potential. The protocol can be used to analyze the nutritional status of patients, and give a score describing the risk profile, to either develop the disease or, in case of present illness to increase the likelihood of a more favorable prognosis. Important criteria in the evaluation of the patient are BMI, recent loss of weight, stage of disease, a detailed nutritional assessment, food-related symptoms, fat to muscle mass ratio and signs of chronic inflammation. **Conclusions:** Improving the nutrition for cervical cancer patients with a guided protocol is a vital change to reduce the risk of developing and treating cervical cancer.

Keywords: protocol, nutrition, cervical cancer, inflammation

NUTRITIONAL ADJUSTMENTS AND COMPLEMENTARY THERAPIES FOR DECREASING CHRONIC SYSTEMIC INFLAMMATION IN CERVICAL CANCER

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Background: Chronic inflammation predisposes to the development and progression of cancer by providing a tumor micro-environment. At least every fifth new case of cancer is directly associated to elevated pro-inflammatory parameters like C-Reactive Protein, Interleukin-6 and tumor necrosis factor alpha. **Objective:** The objective was to evaluate the recent methods developed worldwide for reducing chronic inflammation by nutritional changes and dietary supplements recommended for women diagnosed with cervical cancer, and to develop a protocol for assessing and personalizing the diet. **Material and methods:** We analyzed recent studies from medical platforms related to nutrition in cervical cancer and the steps needed to efficiently assess the nutritional status for Romanian women with cervical cancer, to develop a capacity building program for nutrition counseling and complementary therapies within the Romanian project "Program of prevention, early screening, diagnosis and early treatment of cervical cancer Romania Center Region", POCU/826/4/9/138603, code project SMIS 138603. **Results :** The first goal was to introduce the patient to the general aspects of anti-inflammatory nutrition based on hydration, detoxification and cleansing of the digestive system to help getting rid of possible inflammation causes. Further steps will include the right distribution of nutrients, the ratio between alkaline and acidic foods, and avoidance of junk food full of sugar and saturated fats. One of the most important aspects is to communicate the value of specific micronutrients with proven effects on inflammation and oxidative stress such as zinc, chrome, selenium, vitamins C and E, beta-carotene and phytochemicals. The step-by-step approach is used to not overwhelm the patient and make the diet maintainable. **Conclusions:** With many recent meta-analyses providing evidence for a strong link between cancer and chronic inflammation, personalized diet should be targeted as early as possible.

Keywords: cervical cancer, inflammation, personalized diet, hydration

THE IMPACT OF MATERNAL OVERWEIGHT AND OBESITY ON PREGNANCY OUTCOMES

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Background: Obesity in pregnant women is increasing in prevalence worldwide. It is considered one of the most commonly occurring risk factors seen in obstetric practice. Evidence shows that a child of an obese mother may suffer from exposure to a suboptimal in utero environment and that early life adversities may extend into adulthood. **Objective:** To determine the influence of overweight and obesity in pregnancy, and the associated maternal and fetal complications. **Material and methods:** The prospective study was conducted by assessing 142 pregnant women. They were recruited in the study at different gestational ages from the 22+0 w.g., whose pregnancy was monitored till delivery. Women had answered questions according to a survey regarding their anamnesis, associated pathology, weight before the current pregnancy, weight gain during pregnancy and nutrition. The statistical analysis was performed using SPSS 21 software **Results :** The mean age of the participants included in the study was 28.4±5.9 years. Most of the women included in the study (88/142 62.0±4.2%) were of normal weight before pregnancy, with a mean body mass index (BMI) 24.5±4.1 (Me 24.2

(21.5; 26.4)). At the same time, in 36/142 (25.4±3.5%) cases, women were overweight, and in 17/142 (12.0±2.6%) cases was established the diagnosis of obesity. Women's weight varied within the limits of 51-110 kg (mean 78.2±12.5 kg, Me 77 (69; 87)). During the current pregnancy, participants gained between 1 and 30 kg. The main weight gain during pregnancy was 11.0±5.3 kg (Me 10 (7; 15)). Compared to participants with normal BMI before pregnancy, pregnant women with overweight and obesity were diagnosed more frequently with: pregnancy induced-hypertension (37,7% vs 6.7%), gestational diabetes (11,3% vs 7.9%), cardiovascular pathologies (20,8% vs 7.9%) and endocrine conditions (11,3% vs 4.5%). There were 4.6% cases of delivery by c-section vs. 37.1% cases in the group with BMI?25. Birth was complicated by fetal traumatism (3 cases), macrosomia (6 cases) and prematurity (5 cases) in women with overweight and obesity. **Conclusions:** Pathological weight gain in pregnancy (≥11 kg) was determined in overweight and obese women included in the study, which led to maternal and fetal complications. The evidence available on short- and long- term health impact for mother and child currently favors actions directed at controlling prepregnancy weight and preventing obesity in women of reproductive ages.

Keywords: diabetes mellitus, hypertension during pregnancy, macrosomia

PHYSIOTHERAPY

THE ROLE OF SYSTEMATIC PRACTICE OF SPORTS AT CHILDREN DURING GYMNASIUM

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Background: Practicing sport regularly can have many benefits for children such as strong bones, ligaments and tendons; toned muscles; improved coordination and balance; increased cardiovascular fitness, lung capacity and joint mobility. Besides this, regular physical activity lowers stress, anxiety and has good effect on the brain and nervous system. Practising sport in an association or in a team can improve social and personal skills, including cooperation and leadership. **Objective:** The main goal of our research was to investigate the effects of practising a sport during childhood and adolescence and to record the advantages of physical activity in children's development. Our hypothesis was that children who play sports regularly have better coordination, mobility, cardiovascular fitness and muscular strength. **Material and methods:** In this observational and prospective research, the following methods were used: observation method, measurement method, recording method, bibliographic study method, statistical-mathematical processing method and method of graphics. A total of 20 children between 10 and 13 years old were included, divided into two groups. The first group included 10 subjects who regularly practiced a sport (namely karate) for at least one year, while the second group included 10 children who had a sedentary or lightly active lifestyle. The 20 children were evaluated using 7 specific tests: Ruffier Squat Test, Trunk Flexion Test, Sit Up Test, Push-Up Test, Hand Eyes Coordination Test and walk on a line with closed eyes. These tests assess different characteristics of children. The test results of the two distinct group were compared, on each metric. The statistical analysis included elements of descriptive statistics (frequency, percentage, mean, median, and standard deviation) and elements of inferential statistics. For inter-group comparisons, an unpaired Student's t-test was used. Statistical analysis was performed using the GraphPad Prism for Windows (trial version). **Results :** The experimental group (the children who regularly practiced karate) performed better in each test. We found the biggest difference at Ruffier Test where the P value was 0.0007. The second biggest difference was at the Push Up Test with a 0.0018 P value. We also found that at the Trunk Flexion Test the mean of experimental group was a much higher value. **Conclusions:** According to the results we concluded that systematic practice of sports can help increase mobility, effort capacity, muscle strenght and coordination, such that it brings many benefits to children's health and development.

Keywords: Sport,, Development,, Children,, Health.

MUSIC THERAPY FOR CHILDREN WITH NEUROLOGICAL DISORDER

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Background: This study is examining the effect of melotherapy on reducing spasticity in children with cerebral palsy. Music therapy is a profession that has emerged over the last fifty years from a variety of professional disciplines in different countries. Musical participation, can direct and coordinate movements, the use of music to stimulate, accompany and regulate physical movement being one of the most primitive functions of music for humans. **Objective:** The main aim of music therapists' working with children with disabilities is often to bring out a child's potential and resources, developing a therapeutic relationship with the child as a framework to gain involvement and contact. **Material and methods:** In this frontal, constatative research, the following methods were used: bibliographic study method, observation method, measurement and recording method, statistical-mathematical processing method and method of graphics. The statistical interpretation was performed using GraphPad. Referring to the dependent variable, a total of 10 subjects were included. The study was conducted over a period of 4 weeks in a private clinic with the tests applied at the beginning of the first session and repeated after 4 weeks of using melotherapy to relax spasticity. Through this research we wanted to emphasize the importance of this therapy in the child's recovery and to highlight the effects it has on the child, both on the motor and cognitive side. **Results :** Our results demonstrate a statistically significant difference between baseline and final values for subjects who received melotherapy ($p = 0.0368$). **Conclusions:** As a conclusion to this study, melotherapy has a positive effect on children and we've demonstrated reduced spasticity and increased their attention expectancy.

Keywords: Cerebral Palsy, Melotherapy, Physiotherapy, Rehabilitation

STUDY REGARDING THE QUALITY OF LIFE AND SOCIO-PROFESSIONAL REINTEGRATION OF POST-STROKE PATIENTS

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Background: Stroke is one of the main causes of mortality all around the world. Most often patients who have survived a stroke experience major disabilities. **Objective:** The purpose of this study was to investigate the impact that stroke has in the patients' lives and to record the differences between the quality of life of patients who have undergone or not. physiotherapy. **Material and methods:** Referring to the dependent variable, a total of 14 subjects aged between 44 and 76 years old were included, divided into two equal groups. The experimental group included subjects who have undergone physiotherapy rehabilitation and the control group those subjects who did not. The independent variable consisted in applying a questionnaire of 49 items, which concerned issues such as functional deficit and reintegration into society. The statistical analysis included an unpaired Student's t-test. Statistical analysis was performed using the GraphPad Prism for Windows (trial version). **Results :** By conventional criteria, the differences were considered to be statistically significant or very significant. For example, the energy level was different within the two groups. While the experimental group had a variable of 3.00, the control group had 2.00. Also, in the mobility category were showed the following results: walk experimental group = 3.00, control group = 2.14; balance experimental group = 3.43, control group = 2.14; standing experimental group = 3.29, control group = 2.00; getting out of a chair experimental group = 3.71, control group = 1.86; upper extremity function experimental group = 3.29, control group = 1.57. Lastly, the total score indicated a major difference between the two groups. If the experimental group indicated a value of 156.12, control group had a value of only 112.29. **Conclusions:** Incipient physical therapy is vital for a good rehabilitation after stroke, improving the mobility and the quality of life.

Keywords: Stroke, Physiotherapy, Quality of life

THERAPEUTIC MEANS USED IN THE TREATMENT OF POST-STROKE SCAPULOHUMERAL SUBLUXATION

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Background: Scapulohumeral subluxation is a common complication among stroke patients, and is widely reported in 60% of patients with hemiplegia after stroke. From a mechanical point of view, subluxation occurs by sliding the humeral head from the glenoid fossa caused by hypotonia of the supporting muscles. Management of the subluxated shoulder is a challenge because in the subacute phase of the stroke, spasticity is installed with the appearance of the painful syndrome complicating the motor and functional recovery. **Objective:** The main objective of this research is to show the importance of physiotherapeutic rehabilitation programs used as the main treatment in the treatment of scapulohumeral subluxation. **Material and methods:** Research involves 10 subjects between 37 and 74 years old, who suffered an AVC and present hemiplegia from a private recovery institution in Târgu Mureş. During 7 weeks, the 10 patients follow a recovery program 5 times a week for 2 hours a day. In this research, the following methods are used: the observational method, measurement and registration method, math processing method and graphics method. **Results :** Patients with scapulohumeral subluxation installed post-stroke, of which 6 men (60%) and 4 women (40%), have as main clinical signs the loss of the anatomical relationship between the humeral head and the glenoid fossa, pain, postural instability. **Conclusions:** The most important conclusion that is observed during the study is that patients with scapulohumeral subluxation who follow an intense program of physiotherapeutic recovery show an increase in quality of life.

Keywords: stroke, hemiplegia, physiotherapy, scapulohumeral subluxation

DYNAMIC BALANCE AND ROM TESTING THROUGH KINETOPROPHYLACTIC MEANS ON FOOTBALL PLAYERS

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Background: Medical flossing is an emerging therapeutic method that uses an elastic band's compression property, applied either on muscles or joints. It is applied as a prophylactic or treatment option in various sports to increase range of motion and reduce pain. **Objective:** The hypothesis from which this study started was that the medical floss band, the kinetoprophylactic mean, can increase the ROM in the ankle joint, thus decreasing the injury rates among football players. Professional and young elite football players have a decreased ROM in ankle dorsiflexion. With the medical floss band this ROM can be increased, and further injuries can be avoided. **Material and methods:** The present study included 18 male football players aged between 18 and 27 years from the football academy of FK Csíkszereda. The aim was to document the floss band's ROM effects on the nine players from the experimental group and compare it to the other nine players from the control group who were given specific exercises without applying the floss band. For a month for the players of the experimental group, the floss band was applied twice a week (two applications for two minutes on both ankles in one session), during which they performed the same exercises as the other players from the control group. In the initial and the final evaluation, the ankle ROM was assessed with a goniometer, and the dynamic balance was assessed with the FMS Y Balance Test Kit. In this research, we used the following methods: the bibliographic study method, the measurement and recording method and the statistical method. **Results :** Results will be presented during the Marisiensis International Scientific Congress because the study is still ongoing. **Conclusions:** The study's conclusion will be presented at the Marisiensis International Scientific Congress with the results.

Keywords: Medical flossing, Ankle, Football, ROM

CLINICAL ASPECT OF PEDIATRIC PATIENTS WITH TETRAPARESIS

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Background: Cerebral palsy is one of the most common causes of motor disability in children. According to the updated definition, cerebral palsy is a group of permanent disorders of the development of movement and posture, causing limitations of activity that are attributed to non-progressive disorders that have occurred in the brain of the fetus or developing baby. Tetraparesis is the most severe form of cerebral palsy, affecting both the upper and lower limbs and is often associated with moderate to severe intellectual disability. **Objective:** The aim of this study was to analyze the clinical aspects of pediatric patients with tetraparesis. **Material and methods:** We performed a retrospective study on 31 patients with tetraparesis aged between 0 and 18 years, admitted to the Pediatric Clinic of Tîrgu Mureș County Emergency Clinical Hospital, between January 2013 and December 2021. The data were collected from the electronic system of the hospital, then centralized, classified and processed with Microsoft Excel 2010, with appropriate statistical functions, distributed on: hospitalization diagnosis, patient age, type of associated symptoms, duration of hospitalization and the value of analysis bulletins. Statistical analysis was performed with 2 specialized statistics software, SPSS and Graphpad Prism 6.0. **Results :** The main reason for the presentation was a fever in 58%, representing a number of 18 patients. Secondary symptoms included: dysphagia, dyspnea, headache, fever, dry or productive cough, muscle aches, rhinorrhea, encopresis. The most common primary diagnosis of discharge was pneumonia (62%), followed by rhinopharyngitis (6.5%), acute tonsillitis (3.2%), respiratory failure (3.2%), and encephalitis (3.2%). We found a significant association (p=0.045) between hospitalization length and the primary diagnosis, 26.3% of children with pneumonia had a significantly longer length of hospitalization than children with other primary diagnoses. Among the main associated comorbidities, we encountered epilepsy (35%), followed by neuro-psycho-motor retardation (52%). **Conclusions:** The most common pathologies associated with tetraparesis in pediatric patients were mainly respiratory: pneumonia, respiratory failure, acute tonsillitis; but also constipation and dehydration syndrome. The main associated comorbidities were epilepsy and neuro-psycho-motor retardation.

Keywords: cerebral palsy,, tetraparesis,, pediatric pathologies,, pneumonia,

DEVELOPMENT OF MOTOR SKILLS, FINE MOVEMENTS BY IMPLEMENTING THE PROGRAM "BABY SPLASHING"

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Background: Baby splashing is a group activity created for babies, for developing their motor skills and even for social development, to create a close bond of trust between babies and their parents. It is a combination of aquagym, hydrotherapy and swimming adapted for children who still need support. First information appeared in West Europe in the 60's, in our country appeared about 10 or 15 year ago. In recent years, recreational activities in water have evolved because many more materials and installations have appeared. **Objective:** Over the course of a few months we will see how babies evolve or regress from a motor point of view and what is the difference between those who participate in Baby splashing and those who do not. **Material and methods:** The research involve 14 subjects aged between 6 months and 3 years old divided in to 2 groups, a group of children that participates in Baby splashing and the other group with children that do not participate in this activity. Children from the first group come to Baby splash one a week, in a class that lasts 45 to 50 minutes. **Results :** As I wrote in the research hypothesis, the results are better for the group that participates in baby splashing. After the tests, the children from the first group reached a higher score and they have a better coordination. **Conclusions:** An important conclusion is that there is a major deference between this two group in motor development and in water adaptation.

Keywords: motor developement, aquagym, water activities, baby

THE ROLE OF KINETOTHERAPHY IN SPRAINS AND DISLOCATIONS OF THE ANKLE

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Background: An ankle sprain or dislocation is a very common trauma that we encounter every day. Has pain, inflammation, swelling of the ankle, limited movement or inability to mobilize the ankle. These causes affect the patient's daily life, because an untreated ankle trauma leads to instability and therefore it is recommended to contact an orthopedist as soon as possible to diagnose and treat the condition. They are the most common of the traumas of the foot, and the sequelae that leave them directly influence the statics and dynamics of the foot. **Objective:** Restoring joint stability; relieving pain and inflammation; restoring gait; restoring muscle strength and endurance; restoration of joint mobility / amplitude; correcting vicious posts; restoring balance. **Material and methods:** I elaborated a paper, based on the study, which was performed at the Fizionova Recovery Center in Târgu Mureș between December 2021 and June 2022. In terms of case sampling, we selected 20 patients who were diagnosed with an ankle sprain or dislocation. The study was approved in terms of compliance with the rules of ethics by the Ethics Commission of scientific research at the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" in Targu Mures **Results :** - Through physical therapy we get a faster recovery;- Patients who do some sport / activity daily, they recover more easily than patients who do not have a daily activity. **Conclusions:** Physiotherapeutic and kinetotheraphy treatments have a very important role in the recovery of the patient who suffered a sprained or dislocated ankle. If treatment is not followed, the lower limb may be immobilized in the cast, which also involves anticoagulant treatment, muscle atrophy, loss of joint mobility. Physiokinetotherapeutic treatment is required to return to the initial mobility of the ankle.

Keywords: kinetotherapy, recovery, ankle sprain, ankle dislocation

PHYSICAL EVALUATION AND PRACTICAL APPROACH IN THE CONSERVATIVE TREATMENT OF SCHEUERMANN DISEASE

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Background: To outline the current situation of the scientific literature regarding the diagnosis and the treatment

of Scheuermann's disease, we begin by saying that it is the second most common cause of structural distortion of the spine, the first being idiopathic scoliosis. Its causes are hyperkyphosis of the thoracic and the thoracolumbar section of the column. Most patients who carry this disease are aged 12-15, few under 10. **Objective:** There are few studies involving the conservatory treatment of Scheuermann's disease, however the aim of this study, based on meta-analysis, is to show the improvement of patients who undergo Schroth therapy. **Material and methods:** The meta-analysis was done using a significant number of articles published online. Mainly, one half of the patients were treated with physical exercises from Schroth therapy and the other half with normal physical exercises. **Results :** As a generalized result of meta-analysis we can observe a significant improvement of Cobb's angle in patients who practiced Schroth therapy as conservatory treatment compared to the patients who used basic exercises in the recovery of the spine deformities. A study published online on Jan 24, 2019, in Asian Spine Journal, based on a randomized controlled trial, involving 50 young adults, both males and females, reaches the same results. **Conclusions:** The published literature regarding the effectiveness of Schroth therapy in patients with Scheuermann's disease shows improvement in delaying the chirurgical intervention, however to prove that this treatment can stop the progression of the disease, more clinical studies are required.

Keywords: Scheuermann’s disease, Schroth therapy, meta-analysis,, Cobbs angle

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RECOVERY OF THE ROTATOR CUFF INJURY IN PERFORMANCE ATHLETES

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Background: Rotator cuff injuries are the most common injuries among those who practice performance sports such as swimming, bodybuilding or tennis. This contusion occurs as a result of an injury in training or competition, joint and ligament sensitivity, or as a consequence of supramaximal physical exertion at the level of the upper train. If only one of the four muscles that are part of this muscle complex (subscapularis muscle, supraspinatus muscle, infraspinatus and small round muscle) is injured, then the functional and dynamic stability of the shoulder joint is deficient, while pain also occurs. **Objective:** Our main objective is to evaluate the correlation between pain in the scapular girdle following the injury and the impact of different recovery methods in these patients. **Material and methods:** We focus on the different types of assessments by which we can diagnose and compare rotator cuff injuries from other traumas to the shoulder, and its severity; but also the different methods we can apply to recover athletes suffering from this contusion. This study includes a number of 10 patients, taking their data from a private clinic in Târgu Mureș. We made a group of 5 patients to whom we gave a schedule of more physiotherapy sessions than the physiotherapy sessions per week. The other group followed a program with more physiotherapy sessions and fewer physical therapy sessions. Both groups of athletes performed the program properly for about two months. **Results :** The group of patients who performed the program with more physical therapy sessions, and fewer physiotherapy sessions, had a faster complete recovery, even faster than the two months set, and the results were visible from on. **Conclusions:** Physical therapy is very important in the case of rotator cuff injuries, significantly and faster improving the recovery process, by dynamically restoring the shoulder and reducing pain.

Keywords: Injury, Sports, Dynamic Stability, Physical Therapy

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THE IMPORTANCE OF PHYSICAL ACTIVITY REGARDING NEUROPLASTIC CHANGES IN THE TREATMENT OF CHRONIC PAIN

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Background: Chronic pain can be very debilitating and in most cases it involves many neuroplastic changes. These harmful alterations that occur in the brain's structure and function are largely influencing the lives of many. Physical activity has many beneficial effects regarding health, but also painful conditions. Unfortunately, physical inactivity is gaining more and more ground in our society. **Objective:** Our objective is to compare studies, in order to determine the extent to which physical activity influences neuroplastic changes, that occur in chronic pain conditions. We also want to get an understanding of how exercise-induced hypoalgesia works. In the same time, different treatment methods of chronic pain will be compared in our study. **Material and methods:** This is a systematic review. We searched the PubMed database in order to find studies, which examined the role of physical activity in the treatment of neuroplastic changes related to chronic pain. Studies found in the reference

lists of some selected studies were also used to create this review. Only free-access studies were selected. **Results :** We found 31 studies, following the advanced search on PubMed. Experimental studies and systematic reviews that included only animals were excluded. Studies that did not involve chronic pain populations were also excluded. In the end, 15 studies were found eligible for our systematic review. **Conclusions:** We found, that physical activity can increase pressure pain threshold and reduce pain sensitization. Physical activity was found to be efficient in treating central sensitization. Physical activity can also influence brain functions and structures involved in pain modulation. Our study found, that the mechanisms of exercise-induced hypoalgesia are similar to the endogenous pain modulation systems, but these mechanisms are still unclear. Low to moderate intensity physical exercises, which are not painful, were found to be the best types of exercise that induce hypoalgesia in chronic pain populations. Long-term trainings were found to be more effective for chronic pain patients. Isometric and strength exercises are beneficial in reducing temporal summation, which indirectly helps in reducing central sensitization. Exercise-induced hypoalgesia was found to be similarly present in males and females as well. When comparing different treatment methods, physical therapy and manual therapy were found to be beneficial in treating chronic pain conditions. Neuroscientific education is a good method to reduce pain-related catastrophizing and kinesiophobia in chronic pain patients. On the other hand, physical activity can also create hyperalgesia in chronic pain populations. This urges clinicians to prudently prescribe physical exercises to patients with chronic pain.

Keywords: Physical Activity,, Chronic Pain,, Neuroplasticity,, Central Sensitization.

THE FREQUENCY OF INJURIES AMONGST CROSSFIT ATHLETES - SYSTEMATIC REVIEW

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Background: Crossfit is a high intensity interval training, a strength and conditioning workout with functional movements performed at high amplitude level. **Objective:** The present study investigates the incidence and the frequency of injury in CrossFit, including prevalence and risk factors. The study used a database search of CrossFit and Injury for systematic review. **Material and methods:** Research papers were browsed utilizing the subsequent databases: PubMed, MEDLINE, NIH, SAGE Journals and NCBI. The search identified 35 potential articles across all databases. After applying inclusion criteria, a total of 19 papers were encompassed in this review. **Results :** The particularly wounded areas are the shoulders (26 □□□□–□□ followed by the spine (24 □□□□–□ and knees (15- □□□–□□ On the other hand, we find common injuries on elbows (12%) and wrists (11%). Based on the studies, the percentage of injuries that required surgery was 8.7%. The studies reported the insecurity variables correlated with traumas, age, sex, body mass index, previous injuries, experience in CrossFit, and participation in competitions. **Conclusions:** Some CrossFit movements and participant peculiarities may cause to higher incidences of specific injuries and injuries overall, so this prevents us from drawing solid conclusions about the risk factors. However, we can agree that there be three fundamental factors: 1. Training frequency, 2. CrossFit experience, 3. Participation in competitions. Incidence of injury is similar to that of other common recreational sports.

Keywords: CrossFit, injuries, risk factors

THE EFFECT OF DANCE IN THE PSYCHOMOTRIC DEVELOPEMENT IN CHILDREN

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Background: Just as other studies have previously shown, dancing helps with the the development of different psychomotor components in children. **Objective:** The purpose of this study is to compare the psychomotor development of children that practice dancing (especially folklore) with those of the children that do not practice any other extracurricular activities and verifying the results. **Material and methods:** There have been different tests and measurements taken for testing these components, such as: laterality, segmental and general dynamic coordination, balance, perceptual-motor coordination (the perception of space, rhytm and one's own movements), the speed of the movements, in these two different groups of children between the ages of 6-12. **Results :** Just from comparing the first rounds of results of these two categories we can see that the dance practicing group

shows psychomotor components that are much more developed when compared to the non-practicing group. Out of which, the most affected ones seem to be coordination, laterality and balance. **Conclusions:** Dancing offers an endless variety of movements that help develop not only coordination and balance, but also one's perception of space, therefore proving that it has a significant impact and a very beneficial one at that, especially when it comes to the psychomotor development of children.

Keywords: Psyhomotricity, Children, Developement, Coordination

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THE INFLUENCE OF PHYSICAL THERAPY ON THE GROSS MOTOR FUNCTION OF CHILDREN WITH SPECIAL NEEDS EDUCATION

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Background: Children who learn in special needs schools are different than ordinary pupils because they have a medical condition which requires a different approach in daily learning activities, and their medical condition may impact their movements more serious. **Objective:** The main objective of this study is to notice if the physical therapy exercises are going to improve the body movements of children with special needs education **Material and methods:** This research study will follow a prospective design that interested 25 children from the Special Needs Education School Nr 2 from Targu Mures, who are diagnosed with autism spectrum disorder (ASD). For this study the gross motor function of the subjects had been assessed with the Gross Motor Function Classification System (GMFCS) test. The GMFCS test appraised the next items: the walking, running and jumping. Following the assessment, a series of physical exercises were introduced during physical activity lessons for a period of 6 months. **Results :** The outcomes of the subjects were analysed by genre, age and final evaluation after the program of physical exercises was applied. Individually every subject had a higher score than the initial assessment after the period of 6 months. It has been shown that some subjects had an increased score because they initially started with lower total points. **Conclusions:** Physical therapy exercises proved to be a great benefit for the movement of children with autism spectrum disorder that are currently learning in a special needs school. Their gross motor functions should be continuously trained so in the future they can easily maintain what they had acquired.

Keywords: Physical therapy, Autism spectrum disorder, Special Needs Education, GMFCS

PHYSICAL EDUCATION AND SPORT

STUDY ON THE PSYCHOMOTRICITY LEVEL BETWEEN SECOND AND THIRD-YEAR MEDICAL SCHOOL STUDENTS IN THE DEPARTMENT OF BALNEOPHYSIOKINETOTHERAPY AND REHABILITATION

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Background: Psychomotricity is a vast field of study that combines several concepts such as psychic, body, temporality, engram and memory. At the same time, psychomotricity represents a complex of specialized structures and mechanisms from which perceptual-sensory information is received. Without adequate psychomotor conduct, an individual would not be able to express himself adequately through movement and would not be able to integrate and adapt to his environment, and finally, would not be able to induce adaptive changes in his own body and in the environment in which he carries out various motor activities. **Objective:** This study aims to identify the difference in psychomotor levels between second and third-year students from the faculty of medicine in the department of balneophysiokinetotherapy and rehabilitation. **Material and methods:** The present study involved 42 third-year students and 58 second-year students aged between 19 and 60 years old. This study aims to evaluate the differences in psychomotor skills between the two groups. Subjects were assessed using eight motor-specific evaluation tests. These evaluation tests aim to assess both the dominant laterality of the body and the motor skills of each subject. Without proper psychomotor conduct, an individual would not be able to express himself adequately through movement. Appropriate psychomotor behaviour harmonizes an individual's psychomotor behaviour with his or her immediate motor and non-motor environment. **Results :** Results will be presented during the congress because the study is still ongoing. **Conclusions:** The conclusion of this study will be presented together with the results at the Congress Marisiensis.

Keywords: psychomotricity, motor evaluation, motor skills, perceptual-sensory information

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STUDY REGARDING THE LEVEL OF DEVELOPMENT OF MANUAL COORDINATION IN 11 YEARS OLD CHILDREN IN THE BASKETBALL GAME

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Background: In the game of basketball, coordination is one of the coordinating motor skills, which must be insisted on in the initiation process, because in children it can be processed efficiently, the level of acquisition being optimal, specific to the period of psychomotor skills. **Objective:** The objective of this study is to determine the level of development of the specific basketball-game manual coordination in children by introducing specific means of action into the initiation training, as an extra-curricular activity. **Material and methods:** The study covered 16 boys with an average age of 11.06 ± 0.99 years, carried out over a period of 6 months in 2021. The two motric tests were applied, namely alternating dribbling on the spot with two balls and simultaneously dribbling on the spot with two balls, with the basketball ball, by timing the execution until the pace of execution or the ball is lost. The subjects have completed two workouts per week with a duration of 60 minutes, and in the applied methodology, the specific exercises selected were performed for the development of manual coordination, carried out for 10 minutes / training. **Results :** The results show that in alternating dribbling on the spot with two balls, following the calculation of the arithmetic mean between the tests, a progress of 6.11 ± 1.56 seconds was registered and during dribbling on the spot with two balls, a progress of 14.27 ± 8.16 seconds. **Conclusions:** The introduction in the learning methodology specific to the basketball game, of carefully selected means of action at children level should be a priority of specialists, which will positively influence both manual coordination and ambidexterity.

Keywords: children, basketball, manual coordination, means of action

PRECLINICAL DENTAL MEDICINE

WHY IS ALGINATE SO UNPREDICTABLE?

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Background: In the age of digitalization, when almost all dental work can be performed by a software, and everything that seemed impossible a few years ago, is becoming a reality today, alginates are losing ground. However, these materials are still widely used by practitioners around the world, which is why it is important to know all of their "secrets". **Objective:** The aim of the study was to observe as many errors as possible that may occur during most of the phases of alginate use (storage,preparation,impression,molding). **Material and methods:** We used different types of alginates that were stored in non-compliant humidity and temperature conditions, as well as different types of alginates that were brought into contact with substances such as local anesthetics, glycerin and aluminum chloride to observe how the properties of the impression material change. For each impression, we poured,sectioned, and analized the cast model to notice the effect of altered materials on the gypsum layer. **Results :** Alginate, which has been stored with the package open at different humidities, has a modified setting time. High humidity is associated with a short setting time, excessive hardness of the material and the inability to use it for impression. Low humidity and high temperature are associated with inactivation of the color indicator, increased setting time, and decreased material consistency. Local anesthetics such as lidocaine, left in the imprint, alter the properties material because it influences the color indicator, decreases the setting time, changes the rheological properties and inhibits the setting of the surface layer of gypsum. For glycerin, often used in the treatment of canker sores, the same results were observed. Aluminum chloride degrades the structure of the class A alginates, so that it is impossible to obtain a gypsum model with satisfactory fidelity. **Conclusions:** Appearances can be deceiving. Defects that appear obvious to the naked eye in the impression material may be undetectable on the model, and a "perfect" impression can lead to a disaster. Alginate is a unpredictable, shifty, and unfaithful material, but in skilled hands, it becomes obedient and predictable.

Keywords: alginate,, impression,, cast model,, change.

RESTORATIVE DENTAL COMPOSITES: BORDERLINE BETWEEN EXCELLENT AND FAILURE

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Background: Dental composites are currently the most widely used restorative materials, their properties being influenced by the action of several factors in the oral cavity. **Objective:** Analysis of the surface of composite samples after they have been immersed in several substances considered to be aggressive over a variable period of time. **Material and methods:** We made 120 samples with the help of 3 types of composite and a glass ionomer. The samples were perfectly adapted and calibrated, with a size of 10x10 mm and a thickness of 2 mm, made with help of a silicone shaper. We choose one macro-self-polymerizing composite, two light-curing composites with nanoparticles, and a self-polymerizing glass-ionomer. The samples were polymerized with the last generation lamp with a performance of 1,100mW / cm2 , for 20 seconds. With the help of the glycerin-oxygen barrier, we avoided the subpolymerization of the outer layer composite. To each type of composite, we assigned 3 test tubes, where we introduced the sample in commercial substances with low pH and substances prepared in the laboratory also with a low pH. In each test tube, we introduced a quantity of 5ml of substance. After a maximum of 48 hours spent in the incubator and aggressive substances, the composite samples were firmly attached to metal support to be subsequently subjected to an analysis that allows the assessment of whether or not the surface of the resin is affected. **Results :** The roughness test allowed us to analyze the composite sample more accurately over its entire surface, so we found significant changes in the samples introduced in the aggressive substances with low pH. The surface was significantly damaged, especially after exposure for 48 hours compared to exposure for 24 hours, which underscores the importance of time when it comes to exposing samples to a substance with low pH. The nanofiller composite has undergone the slightest modification of the surface, which highlights the importance of composite microparticles, thus being more resistant to all 3 aggressive substances used. At the opposite pole is the glass-ionomer, which could not be analyzed due to the advanced destruction of the surface. **Conclusions:** The in vitro study results are important clinically because the quality of composite restoration depends on the pathology of a patient, especially when is a patient with digestive disorders and also a spirts

consumer.

Keywords: composite, glass-ionomer, destruction, aggressive-substance

MOUTHGUARD: STANDARD VERSUS INDIVIDUALIZED

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Background: The use of individualized mouthguards as a result of the collaboration between the dental office and the dental laboratory for the comparison of standard mouthguards with individualized mouthguards. **Objective:** Comparative analysis on phantom models of standard versus individualized mouthguards in terms of physical properties and the factors that can influence these properties. **Material and methods:** Individualized mouthguards were made using different materials: silicones, polyurethanes, copolymers of vinyl acetate-ethylene, polyamides, thermoformable materials which were tested for their physical properties compared to various standard mouthguards on the market. The tests to which both types of mouthguards were subjected are: pendulum test, impact resistance and transmission of force depending on the thickness of the mouthguard. For both types of mouthguards, the impact of some environmental factors (temperature, water) as well as the effect of the technique of hygienization and "maintenance" of the mouthguards were studied. Several types of mouthguards were made using the mentioned materials. The walls were thick enough to give mechanical resistance to the tests to which they were subjected and also to achieve a state of comfort while wearing them. An ideal thickness in its constitution is 2 millimeters, so that it meets both conditions. **Results :** The comparative analysis of the two types of mouthguards showed the superiority of the individualized mouthguards compared to the standard mouthguards in terms of their performance (strength, degree of influence of some physical, chemical and mechanical factors). Due to the easy accessibility and the avoidance of medical appointments, the standard mouthguards are much more used, but from a medical point of view the individualized mouthguards have a clear superiority. **Conclusions:** The standard mouthguards are inferior to the individualized mouthguards considering a medical point of view. The role of the dentist's collaboration with the dental technician in the elaboration of the individualized mouthguards is essential. Instead of not using a mouthguard, better use a poor mouthguard.

Keywords: mouthguard, standard, individualized, efficiency

IN VITRO STUDY OF WEAR OF FINE AND COARSE DIAMOND BALL BURS

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Background: For cavity forming, several burs can be used, alternating them according to the situation. At the enamel level, diamond-coated burs are used, while for dentin, drills made of various metal alloys are used. Due to the frequent change of burs and the variation in cavities, it is difficult to determine the lifespan of a bur. **Objective:** Our objective is to determine the wear of different types of diamond-coated ball burs. **Material and methods:** A total number of 12 diamond ball burs were used in the present study, which were selected from two manufacturers (Komet and DZ). From each of the two manufacturers, 3 fine (green marked) and 3 coarse (black marked) grit ball burs were used. Thirty-six composite specimen disks, 0.5cm in diameter, were prepared for wear testing. The workflow was divided into three parts: grinding the surface of the discs in three different patterns (parallel, grid and circular), sterilization process using an autoclave and grinding the enamel of extracted teeth to simulate the use of the burs. In each case, the burs were used on the extracted teeth for 3 minutes, activated by a turbine at a speed of 400 000rpm. This process was repeated in two cycles. The surface roughness of the discs was analysed using a roughness tester (Mitutoyo) and the roughness Ra values obtained were subjected to statistical analysis. **Results :** The initial roughness of the Komet fine grit ball bur was 5.25 ± 2.09µm, after 6 minutes of grinding the roughness value was 4.71 ± 1.74µm. The difference was statistically not significant ($p=0.46$). The initial roughness of the Komet coarse grit ball bur was 7.00 ± 2.48µm, after the two grinding cycles the roughness value was 4.50 ± 1.64µm. The difference was statistically significant ($p= 0.001$). The initial roughness of the DZ fine grit ball bur was 3.94 ± 1.43µm, and 3.96 ± 1.66µm after 6 minutes of grinding. The difference was not statistically significant ($p=0.95$). The initial roughness of the DZ coarse grit ball bur was 5.11 ± 2.07µm, while after two grinding cycles the roughness value was 5.32 ± 2.58µm. The difference was not statistically significant ($p=0.76$). **Conclusions:** Within

the limitations of the present study, we can conclude that the wear of diamond burs depends on the manufacturer and on the grit size of the bur. Coarse grit diamond burs might have a faster wear rate than fine grit burs, but this can depend on the manufacturer also.

Keywords: diamond bur, wear, surface roughness

INTERNAL AND MARGINAL FIT OF 3D PRINTED TEMPORARY CROWNS FABRICATED ON CASTS OBTAINED FROM CONVENTIONAL IMPRESSIONS

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Background: The use of temporary crowns is an increasingly applicated method, first of all to protect the prepared tooth, but also to avoid the elongation of the antagonist tooth and to restore aesthetics and function. In case of long-term provisional crowns internal and marginal fit becomes an important aspect. **Objective:** The aim of the present study was to evaluate the internal and marginal fit of 3D printed long-term temporary crowns fabricated on casts obtained from two different conventional impression technique. **Material and methods:** Four extracted upper second molars were used for the study. In a first step, the roots were embedded in A-silicone and then the coronal parts were prepared using the rounded shoulder technique. In the next step two conventional impression techniques were used, as follows: group A - two-step double-mix technique with C-silicone (Zhermack, ZetaPlus and Oranwash), group B - one-step double-mix technique with A-silicone (Zhermack, elite HD+ putty soft and light body). Eight casts were obtained from the impressions. After scanning the casts eight long-term temporary PMMA crowns were fabricated by Asiga Max UV 3D printer. A cement space of 60 microns was set. For the assessment of the internal fit silicone impression technique was used. The initial mass of each crown adapted on the cast was measured by an analytical balance. After making the silicone impressions with light bodied A-silicone under 20 N weight, the measurement process was repeated. After removal of the impression material, the crowns were cemented on the casts with a temporary cement under 20 N weight and sectioned for observation of the internal and marginal fit of the cement. The obtained data were processed statistically. **Results :** For group A, the mean difference between the first and the second mass measurement was 0.096±0.045g, while for group B the difference was 0.065±0.004g. The difference between the two groups was statistically significant (*p=0.02*). The magnified images of the crown sections show that the samples from group B have a more uniform layer of temporary cement than the samples from group A. At the same time, a better marginal adaptation was also observed in the samples of group B. **Conclusions:** Within the limitations of the present study, we can conclude that the wear of diamond burs depends on the manufacturer and on the grit size of the bur. Coarse grit diamond burs might have a faster wear rate than fine grit burs, but this can depend on the manufacturer also.

Keywords: conventional impressions, 3D printing, temporary crowns, internal fit

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LIGHT-CURING: ERRORS AND DEFECTS

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Background: In order to achieve a successful light curing, there are a number of factors that can undermine the quality and efficiency of this process. **Objective:** Demonstration of the ability of physical and chemical factors to influence the photopolymerization process, as well as determining the efficiency of photopolymerization. **Material and methods:** In vitro evaluation of how factors such as angle, distance and contamination of lamps can cause a millimeter change in the path of the light beam. Thus, in the case of distance and contamination, an LED lamp, millimeter sheets and composite were used to examine the alteration of the light scattering once the value considered to be ideal was exceeded. For the analysis of the angulation, a gypsum model was used, determining the way in which the incorrect positioning of the lamp influences this process. Also, important parameters were tested for light curing, such as: light transmission power and temperature generated by 3 separate lamps, using a radiometer and a heat sensor. Finally, the photopolymerization efficiency of four types of composite was calculated depending on the lighting time and the thickness of the material layer using test molds, methanol solution and analytical balance. **Results :** Failure to observe the ideal values, such as positioning the tip of the light cure lamp at an angle of 90 degrees and placing it at a distance of 2 mm, will lead to errors, such as: decreased radiant

emission and changes in light scattering. Contamination of the surface of the light curing lamp will also lead to insufficient light curing, as light transmission is not uniform. Assessing the power of the lamps, it was found that they provide an energy of less than 300 mW / cm 2 required for proper light curing.The photopolymerization efficiency depends primarily on the thickness of the composite material layer, so a suitable polymerization is obtained for a maximum material layer of 2 mm. It has also been observed that reducing the exposure time can lead to a significant decrease in the polymerization depth, while increasing it has reduced effects. **Conclusions:** We must be aware of the limitations of light curing lamps, check them constantly and make sure that the factors that are influenced by the operator are respected and exploited according to clinical indications.

Keywords: light-curing, factors, errors

PERMANENT MAXILLARY CANINE DIMORPHISM FOR GENDER DETERMINATION

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Background: Gender determination is mostly used in forensic sciences, such as forensic anthropology and dentistry. The techniques based on bone and skeletal remains makes not always possible the establishing of gender. Hence, the human teeth like the hardest and chemically the most stable structure in the body, plays the role of sex identification in forensic investigations. It has been demonstrated that the permanent maxillary canine was the most important tooth to be utilized for gender determination. **Objective:** The present study aims to establish the morphometric and dimensional variations of the maxillary canine between males and females in the local population. **Material and methods:** 60 dental casts (30 of each sex) of upper jaw were assessed in the age group 14-20 years. The assessment started with taking 3 images of each canine, from three angles with NikonD3100 photo camera and Tamron macro lens. The mesiodistal width, the crown length, the inter-canine distance and the vestibular surface area were measured with the Image Pro Insight photometric software. The bucco-lingual width of canine teeth and the first maxillary inter-premolar distance were measured with a digital vernier calliper. The values were subjected to statistical analysis. After detecting the outliers and performing the Kolmogorov Smirnov normality test, descriptive statistics and Students `t` test was applied to establish differences between the groups. **Results :** No statistically significant differences between antimere canines were found, therefore mean values were utilized for further statistical analysis. Almost all parameters showed significant differences between men and women. For mesiodistal width p=0.03, for crown length p=0.02, for the vestibular area p=0.001 and for the inter-premolar distance p=0.01. All these parameters showed higher values in men than in women. There was also a difference in bucco-lingual width between male and female, but this difference was not significant statistically (p=0.56). **Conclusions:** The present study showed that the maxillary canine dimorphism has a high importance in gender determination. For further researches more parameters can be assessed and correlation coefficients might be determined within the genders. Hence, the present study can be extended in other directions and perspectives, mostly in forensic dentistry.

Keywords: Gender determination, Maxillary canine, Dental dimorphism, Forensic dentistry

IN VITRO STUDY OF EROSIVE EFFECT ON VARNISH PROTECTED GLASS IONOMER CEMENTS

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Background: Dental erosion is considered an irreversible pathological chronic lesion of the oral cavity. It is well established that erosion of enamel occurs when the pH falls below 5.5. Excessive consumption of acidic drinks also damages the structure of glass ionomer cement seals. The pH of the oral cavity and the duration of contact with acidic beverages have a significant influence on the surface of restaurations. **Objective:** The aim of our study was to investigate the erosive effect of different acidic beverages on the surface of glass ionomer cement samples protected by varnish, under in vitro conditions **Material and methods:** The materials used for the present study were GIC 1 and GIC 2. Using a silicone template, 10 sample discs per material were prepared according to the manufacturer's instructions. The samples were then coated with special varnish for GIC and initial surface roughness was determined using a roughness tester. In the next phase the samples were soaked in two erosive

solutions: Cola type soft drinks and red wine, according to a predefined protocol. The material samples in the control group were stored in artificial saliva. The surface roughness of the samples was then measured at specified intervals. The data obtained were subjected to statistical analysis (GraphPad Instat) and compared with data from our previous study, where GIC 2 samples without special varnish protection were analyzed with the same protocol **Results :** Varnish protected GIC 1 and GIC 2 samples after soaking in Cola type soft drinks (p=0.67), red wine (p=0.85) and artificial saliva (p=0.46) did not show any statistically significant changes in surface roughness. On the other hand, the glass ionomer samples without special varnish coating showed statistically significant differences after immersing in cola (p=0,0001), red wine (p=0,006) and artificial saliva (p=0,01). **Conclusions:** The surface roughness of the glass-ionomer cement samples protected by the special varnish did not suffer any change under the influence of acidic drinks, predicting the stability of the physical resistance in case of protective varnish use. The present study underlines the importance of the varnish protection in case of glass ionomer cements.

Keywords: surface roughness, glass ionomer cement, erosion, acidic drinks

CLINICAL DENTAL MEDICINE

OCCLUSAL EQUILIBRATION WITH T-SCAN SYSTEMS

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Background: T-Scan is an objective assessment tool used to evaluate the occlusion of a patient. Unlike articulating paper, which only determines location, the T-Scan can identify both force and timing. These are two of the most fundamental parameters for measuring occlusion. **Objective:** The objective of this study is to help the patients with the TMJ pain. We are aiming to stabilise and balance the occlusion by selective polishing after we have scanned with the t-scan that shows us where to polish. And monitor the patient over a few sessions to see if we have improvement. **Material and methods:** The system has two parts. The first being the software, which has to be installed on the computer and the second, the machine, which is responsible for sending the information to the software. The machine has the following components: the handle or remote, which has the role of controlling the commands we want to send to the software; the sensor holder, which provides support for the sensor and finally, the sensor, which is used to record the occlusion of the patient. The sensor along with its' holder come in different sizes depending on the patients arch size. Each sensor is replaceable and needs to be individually changed with every patient. To ensure there is an ideal and accurate performance, the sensors should be used only for one session of recording. In this study, my coordinator along with myself performed five occlusal equilibrations. Each patient followed the same procedure. First we instructed the patient to bite on the sensor in various dental positions.These positions included maximum intercuspation, protrusion and lateral movements. The areas of improper occlusion were determined by the sensors and displayed on the computer. Using this information we were able to correct the improper contacts by conducting selective polishing with special burs. **Results :** The Aim of this study was to determine the cause of various painful and unresolved medical conditions. The majority of the patients in this study complained of TMJ discomfort. Resolved by selective polishing with the help of the sensorial information produced by the T-scan in relation to occlusion. One patient complained of epiphora (watery eyes) in the left eye. Resolved in the same matter. **Conclusions:** In conclusion, the T-scan system is a very useful tool that can be used to fix a number of different occlusion problems. The training session is thorough but quick which makes it a favorable and popular system for dental use today.

Keywords: TSCAN, occlusal contacts, TEMPOROMANDIBULAR JOINT, selective polishing

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THE ABILITY OF FINAL YEAR STUDENTS TO INTERPRET THE OCCLUSAL RECORDS OBTAINED USING ARTICULATING PAPER

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Background: Knowledge of the basic principals of occlusion and especially their application in clinical practice is very important to obtain a stable and functional occlusion, dental occlusion being more than a simple physical contact dento-dental, it is a biological relationship, well coordinated and in balance with all the elements of the dento-maxillary apparatus , in other words, a key to its functionality. **Objective:** The aim of this study is to evaluate the capacity of dental students from the final year in interpreting the occlusal records obtained using articulating paper. **Material and methods:** For the accomplishment of this research, occlusal records were registered with articulating paper and T-SCAN system, of which the occlusal records obtained with articulating paper were used to create a questionnaire. A group of 75 dental students from final year was invited to complete the questionnaire in order to evaluate their theoretical knowledge about the dental occlusion, but mostly the practical application of it . **Results :** Subsequent to gathering all the data, statistics were made and the results were : in the multiple choice questions part 46,25% of the students responded correctly and in the redactional questions 1,49% of them responded entirely correct and 34% responded partially corect. In total, the average of students that responded moderately correct in all the questionnaire was 40% . **Conclusions:** In conclusion, the study showed that the students present lack of knowledge of the theoretical concepts of dental occlusion, but especially lack in applying the theoretical information in the clinical practice.

Keywords: dental occlusion, T-SCAN, articulating paper, dental students

QUANTITATIVE MEASURES OF GINGIVAL RECESSION AND THE INFLUENCE OF ATTRITION

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Background: Gingival recession is the apical migration of marginal gingiva which leads to the exposure of root surface. Gingival recession is measured with a periodontal probe. **Objective:** To establish quantitative measure of recession, the clinical crown length, and the distance between marginal gingiva and papilla. **Material and methods:** A total of 60 patients were included in the present study. They were divided into 3 groups of 20 people. The groups were: smokers, abrasion, and poor oral hygiene. The above mentioned measurements were performed on each tooth in the oral cavity that presented gingival recession. **Results :** The genders did not show statistically significant differences in none of the periodontal parameters regarding the gingival recession. The position of marginal gingiva, interdental papilla, and crown length did not show statistically significant differences in case of the 3 groups. The clinical crown length and the interdental papilla measurements gave a true positive result for changes associated with gingival recession. **Conclusions:** These evaluations are very useful in detecting existing gingival recession before macroscopic cemental exposure occurs. The measurements can be used in clinical dentistry, research, and epidemiological studies.

Keywords: gingival recession,, smoker,, abrasion,, poor oral hygiene

EVALUATING THE PREDICTABILITY OF DIGITAL SETUP IN ORTHODONTICS

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Background: The orthodontic setup is a three-dimensional simulation that allows the teeth to be aligned in the appropriate position according to a previously established treatment plan previewing the final result. It is a valuable diagnostic tool that can be used to confirm, modify, or reject a suggested treatment plan and can be especially important when it comes to a more complex case. **Objective:** The main purpose of this study is to evaluate the accuracy of the digital orthodontic set-up by comparing it with the result of the orthodontic treatment. The secondary purpose is to compare the correlation between the parameters obtained after performing the digital set-up with the analysis of the models at the end of the orthodontic treatment. **Material and methods:** The models of 20 patients included in the study were scanned using the Medit i500 scanner, allowing the images to be digitized. In a subsequent phase, the digital set-up was performed using the BlueSkyPlan software to obtain appropriate intermaxillary relations according to the treatment plan. The intercanine distances, intermolar and the length of the dental arches were measured both in the initial, final models, and after the setup in order to be able to compare them. **Results :** Statistically significant differences were observed between the intercanine width(p= 0.007) and arch length (p=0.02) of the final models compared with the set-up models. Regarding the other evaluated parameters of the final models, although the values were decreased compared to the set-up models, the differences were not significant. **Conclusions:** The comparison made in this study between the digital set-up and the patient's final model gives confidence in choosing the setup as a reliable tool for treatment planning.

Keywords: Diagnostic, Dental Model, Set-up, Comparison

EVALUATION OF THE BIOMECHANICAL PROPERTIES OF IN VIVO USED ORTHODONTIC MINI-IMPLANTS

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Background: Orthodontic mini-implants, also called Temporary Anchorage Devices (TADs) are devices that are temporarily attached to the jaws bones in order to improve orthodontic anchorage and to facilitate tooth movements. **Objective:** The aim of this study is to evaluate the biomechanical properties, namely, the insertion torque of 2 types of orthodontic mini-implants used intraorally for different periods of time. The secondary objective

is to compare their properties with the new, unused mini-implants of same type and to correlate the intraoral use time with changing parameters. **Material and methods:** We did a study on a total of 51 orthodontic mini-implants, from two different manufacturers, Yesanchor OrlusTM (conical) and Link MIS TM(cylindrical), both having the same dimension 1.6 x 8 mm. These two types of mini-implants were divided into GC-control group: GC Y (n=5), GC M (n=5) and GI-group used intraorally, the latter was divided according to the period of intraoral use in : GI Y1 ≤ 12 months (n=10), GI Y2≥ 12 months (n=15), GI M1 ≤ 12 months (n=7), GI M2 ≥ 12 months (n=9). In order to test the insertion torque, all the samples from the GI groups (n=41) were inserted in high-density artificial bone. **Results :** The maximum insertion torque values for Yesanchor mini-implants varied from 35.58 Ncm to 42.34 Ncm and for MIS mini-implants from 19.44 Ncm to 25.36 Ncm. Significant decrease of the intraorally used mini-implants maximum insertion torque was demonstrated both for the Yesanchor group ($p<0.05$) and Mis group ($p<0.05$). Regarding the intraorally usage time, the differences were not significant. **Conclusions:** Our study showed that there exist differences in maximum insertion torque between the mini-implants from two different manufacturers. We observed a decrease of the maximum insertion torque for the group of mini-implants used intraorally compared to the Control Group.

Keywords: Orthodontic mini-implants, Biomechanical properties, Insertion torque

TEMPOROMANDIBULAR DYSFUNCTION AND POST-ORTHODONTIC TREATMENT

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Background: TMJ dysfunction is a degenerative condition which causes pain and functional anomalies in the muscle and joint of the mandible. Malocclusions is a condition of an abnormal teeth alignment that usually causes different bite dysfunctions or teeth spacing issues. It is important to know which conditions are causing the occlusal changes in order to benefit of proper treatment. Furthermore, we can experiences these occlusal changes in conditions such as: bruxism, vicious habits, unilateral mastication or postural disorders. **Objective:** The objective is to find a correlation between TMJ disorders and post- orthodontic treatment. **Material and methods:** Several books and articles were evaluated from various bibliographical sources. Very often TMJ disorders occur in patients with post-orthodontic treatment for this reason a clinical case case on the subject is examined.A radiography of a patient after orthodontic treatment was evaluated. The patient needed to make lateral movements and propulsion movements, in order to determine the kinematics of the mandible. As result premature contacts are noticed. The relaxation of the muscles is achieved by implementing a mouth guard, that the patient needs to use during the night and if needed during the day. For a better understanding, the maxillary and mandibular cast in mounted in the articulator. **Results :** The studies in various literature show a significant association between TMJ disorders and development of malocclusions as well as post-orthodontic treatment. General complaints consists of muscle pain when moving the jaw and crepitations of the joint. Functional problems like chewing and speaking are reported in patients with more severe TMJ dysfunctions. After analysing the occlusion premature contacts are noticed which can destabilise the occlusion and lead to different occlusal problems and TMJ dysfunctions. For that reason the occlusion needs to be stabilised by polishing the premature contacts with the appropriate burs. **Conclusions:** It is important to find a proper treatment plan for the TMJ disorders in order to maintain a healthy occlusion. Early detection of pre-mature post-orthodontic contacts and their remedy can prevent a TMJ complication. If it is left untreated it could lead to complications and severe TMJ dysfunction. Irreversible treatment options should be analysed with the awareness of a TMJ dysfunction.

Keywords: TMJ dysfunction, post-orthodontic, occlusion, malocclusion

CONTRAINDICATION OF DENTAL RADIOGRAPHY IN PREGNANT WOMEN. MYTH OR REALITY?

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Background: Dental X-rays are images of teeth that dentists use to evaluate oral health. For obtaining these X-rays the patient is exposed to a low level of radiation, to capture images of the interior of the teeth and bone. This

can help dentists to identify problems, like cavities, tooth decay and impacted teeth. Dental radiography is essential in certain dental treatments but sometimes pregnant women are avoiding this diagnostic method because of the fear of exposing their fetus to risk, despite the medical urgency they have. **Objective:** The main purpose of our study was to compare the amount of radiation a pregnant woman is exposed to during a dental x-ray with the amount of radiation she is unintentionally exposed to, during her day-to-day activities. **Material and methods:** In the first stage of the study we used a questionnaire to collect opinions of pregnant women on dental radiography, as well as on the radiation volumes they are exposed to daily, more or less consciously. The questionnaire was distributed online, on social networks, as well as in some Gynecology and Obstetrics offices in Târgu Mureş, and 120 women participated in the study. Furthermore, we collected data from specialized studies on the amount of radiation that the body stores in everyday life and compared them to the amount of radiation from dental x-ray. **Results :** The results of our study show that the amount of radiation emitted by a dental x-ray (5 μSv) is much lower than that to which the pregnant woman is exposed daily, such as when traveling by plane (18 μSv for a 7 hours flight) or living in a big city (210 μSv annually). In spite of this, the majority of mothers or mothers to be (96%) stated that they would not have a dental x-ray in case of an emergency, although 86% of them live in urban areas, and 83% state that they have traveled or will travel by plane. **Conclusions:** The contraindication of dental radiography in dental emergency cases in pregnant women is a myth, as we found they are regularly exposed to higher amounts of radiation only by living their day-to-day life, than those caused by a retro-alveolar radiograph or an OPG x-ray.

Keywords: dental, x-ray, pregnant women, myth

THE IMPLICATIONS OF EARLY LOSS OF PRIMARY MOLARS ON FUNCTIONAL BALANCE IN MIXED DENTITION

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Background: Early loss of primary molars, as a consequence of complicated caries, is the most common pathology in mixed dentition with major implications on the functional balance of dental arches and the effects depend on certain factors including the type of molar lost, patient's age and the presence of crowding at the time of extraction. Early loss is the situation in which the first and/or the second molars are lost before 7 years or between 7-9 years for the first molar and 7-10 years for the second molar. **Objective:** The main objectives were to analyze the space condition, the position of the first molars, the eruption age of the premolars, the eruption age of the second molars and other disturbances in the dental arches. **Material and methods:** For this study a total of 70 study casts in mixed dentition were selected of which 40 upper arches and 30 lower arches. The examination of the casts was performed twice by two examiners. **Results :** According to this study the results show that for the age group 7-8 years in the upper arch, it was noticed a higher mesialization in the 6-year-old molars on the hemiarcades where both temporary molars were lost earlier than those where only one temporary molar was lost and in the age group 8-9 years, the results show that the mesialization of 6-year-old molars is greater if the loss of temporary molars is earlier. Also, in this age group, the analysis of the models showed that patients whose premolars did not erupt immediately after the loss of temporary molars, the mesialization of the first permanent molars was higher. An important difference was observed between the study casts where both molars were lost and those where only one was lost, the mesialization of the molars being 2-3 mm higher in those in which both temporary molars were lost. **Conclusions:** Early loss of primary molars has important consequences especially in the case of loss of the second molars causing important disturbances with differences between the upper arch and the lower arch, related to mesial migration of the first permanent molars, early eruption or retention of premolars. It is also possible to observe an approximately correct preservation of the space for the physiological eruption of the canines in case of early eruption of permanent premolars, occupying its physiological place on the arch and managing to slow down the mesialization speed of the first permanent molars.

Keywords: Early loss, Primary molars, Mesial migration, Premolars eruption

CBCT EVALUATION OF UPPER AIRWAY VOLUME IN PATIENTS WITH DIFFERENT ANTERO-POSTERIOR SKELETAL PATTERNS

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Background: The interaction between cranio-facial development and pharyngeal space is nowadays very discussed. Any abnormality that interests the functional aerial spaces, the upper ones, has a direct impact on the normal cranio-facial development. The orthodontist has an enormous responsibility in recognizing, diagnosing and treatment of those relationships. **Objective:** The aim of this study was to evaluate the following parameters: the morphology and the volume of the upper airways in class I, class II and class III skeletal anomalies. The second objective was the comparison of those parameters. **Material and methods:** The CBCTs of twenty patients of Natural Smile Dental Clinic of Targu Mures were introduced in this study. Twenty different skeletal patterns were analyzed and classified by skeletal class (I, II, III), age and sex. Every patient was placed with the Frankfurt plan parallel to the ground during CBCT. The upper and lower teeth were held in intercuspation during the scan procedure. Each case was analyzed in sagittal and axial sections of the 3D program. The calculation of volumes was done automatically by the program, in mm^3. We divided the volume of pharynx in two: the oropharynx and the hypopharynx and we set up some standard superior and inferior limits of pharynx for all patients. Apart from the volume, we calculated the most constricted cross-sectional area (Min-CSA) of the pharynx in every skeletal class. **Results :** We found no statistically significant differences between parameters, except for Min-CSA between class I and III (p=0.03) and between class II and III (p= 0.005) and the oropharynx volume between class II and class III (p=0.02). Regarding the other parameters between classes, the values were not statistically significant. **Conclusions:** The oropharynx volume and the most constricted cross-sectional area of the airway varied with different antero-posterior skeletal patterns.

Keywords: skeletal classes, upper airways, oropharynx

ORAL TISSUE CHANGES IN TOBACCO SMOKERS

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Background: VELscope stands for visually enhanced lesion scope and is considered by WHO (World Health Organisation) as an effective device in detection of premalignant lesions, such as nicotinic stomatitis. Autofluorescence examination of the soft tissues using VELscope is considered an auxiliary assessment tool for cancer detection. Using VELscope examination alone cannot provide a definitive diagnosis and does not replace clinical evaluation, but it can be a useful medical tool for prevention. Fluorophores and fluorochromes are those entities that provide the fluorescent properties of molecules. VELscope emits a blue UV light that excites green fluorochromes, so the appearance of the healthy soft tissues inspected is green. Cellular changes of the oral cavity leads to loss of fluorescence (depigmentation), therefore the tissues will appear black. **Objective:** The aim of this study was to detect oral tissue changes in smokers using a VELscope device. **Material and methods:** 50 tabaco smokers were included in this study. These patients were subjected to clinical examination under normal light, followed by VELscope examination. The appearance of the autofluorescence was compared with the appearance of the oral cavity under normal visualisation. Hiperkeratotic changes and inflammation of oral mucosa were assesed. **Results :** 28% (n=14) of all subjects presented oral tissue changes due to cigarette smoking, namely nicotinic stomatitis. In 11 out of 14 cases of nicotinic stomatitis specific oral changes were detected both under normal and VELscope visualization. In 3 of the patients oral tissue changes were detected just under VELscope examination, whereas in normal vizualization they were not noticed. **Conclusions:** VELscope is a simple, non-invasive medical assessment device for examining soft tissues that can be used by clinicians for increasing the quality of oral changes detection and the correct location and delimination of the altered mucosa within the examined tissue.

Keywords: VELscope examination, tissue fluorescence, screening, nicotinic stomatitis

PHARMACY

THE PHARMACOTHERAPEUTIC POTENTIAL OF TACRINE-FLAVONOID CHEMICAL COMBINATION IN THE TREATMENT OF ALZHEIMER'S DISEASE STUDIED THROUGH QSAR AND MOLECULAR DOCKING TECHNOLOGY

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Background: Sintetical medicaments used in Alzheimer's disease (AD) can reduce some of the symptoms, leading to a better quality of life for patients, but they also have many side effects. The multifactorial nature of AD suggests a complex pharmacologic approach which is preferred over a simple treatment strategy. For example, applied therapeutic methods should reduce oxidative stress using medical combinations such as tacrine-flavonoid. **Objective:** This paper aims to help us understand the nature of atoms and groups of atoms in the studied compounds involved in the manifestation of inhibitory activity on the enzyme acetylcholinesterase (AChE). Finding the location of these responsible molecular fragments allows for the better design of drug compounds. **Material and methods:** The chemical compounds analyzed are tacrine-flavonoid hybrids, where we combined tacrine with myricetin, quercetin, diosmetin, etc. In this study, molecular docking was performed using the program Hex to create these hybrids, and then we studied their molecular binding abilities with the enzyme acetylcholinesterase. After that, quantitative correlations were made between these binding energies and the analysed substances' chemical structure, and all five components of Lipinski's law were determined using QSAR modelling **Results :** The binding power of the hybrid compounds studied with the active site of AChE showed a better score than the conventional drug is chosen, tacrine. For example, the binding energy of the tacrine-quercitin complex with the active site of AChE is -376,59 kcal/mol, which is much lower than tacrine alone (-184,21 kcal/mol). This result highlighted the better efficacy of the indicated complex in the inhibition of AChE, which is why hybrid combinations are recommended as better therapeutical alternatives in the treatment of AD. **Conclusions:** Acetylcholinesterase inhibitors remain the preferred therapy for AD, but their association with antioxidant agents can slow the progression of the disease. In other words, AChE inhibition is more pronounced due to the antioxidant properties of flavonoids, leading to recommendations for using flavonoids and classical therapeutic methods in the treatment of AD.

Keywords: Tacrine, Flavonoids, QSAR, molecular docking

STABILITY AND FORCED DEGRADATION PROFILE OF URSODEOXYCHOLIC ACID USING AN HPLC ANALYSIS

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Background: Ursodeoxycholic acid [3α,7β-dihydroxy-5β-cholanoic acid (UDCA)] is a secondary bile acid that is the metabolic product of intestinal bacteria. It is currently used for the treatment of primary biliary cirrhosis (PBC), the dissolution of radiolucent gallstones in patients with a functioning gallbladder, and the treatment of hepatobiliary disorders associated with the cystic fibrosis in pediatric patients. **Objective:** Our purpose is to evaluate the ten-year-old UDCA tablets held in improper temperature and humidity conditions, along with the forced degradation profile of the novel UDCA capsules following the ICH guidelines. **Material and methods:** An HPLC method has been developed using a reversed-phase, a C18 column (4.6 x 250 mm x 5 µm particle size), in isocratic mode, with mobile phase A consisting of an aqueous solution with a pH equal to 2.7, 10 mM KH2PO4 and methanol as the mobile phase B. The flow was set up to the rate of 0.8 ml/min, where the column was held to the temperature of 40 degrees Celsius. As a result, we observed a detection to the wavelength of 205 nm in UV. **Results :** Different mobile phases have been tested in gradient and isocratically modes. The best separation was achieved using a pH equal to 2.7. The old UDCA samples exhibit an incomplete separated peak at a reduced pH. The resolution between degraded product and UDCA was lower than at the optimum pH of 2.7. Both the ten-year-old capsules and active pharmaceutical ingredient (API) exhibit the same chromatographic profile (with a shoulder over UDCA peak), while the new capsule has not shown any other peaks except UDCA. **Conclusions:** We have developed an HPLC method for UDCA separation using a KH2PO4/methanol mobile phase. The ten-year-old capsules of UDCA exhibit an unknown impurity (in the substantial quote) and API. The new capsules have not shown any degradation. Therefore, a controlling time of the UDCA capsule should be taken into account.

Keywords: Ursodeoxycholic acid, force degradation, long time stability, primary biliary cirrhosis

STRUCTURE-ACTIVITY RELATIONSHIPS AMONG THE NEWEST TETRACYCLINES

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Background: The tetracycline class has shown exceptional development in the last two decades by acquiring newly approved representatives. The third generation comprises valuable members obtained by structural optimization. The transition to the third generation has brought advantages in the mechanism of action, spectrum of activity, potency, and pharmacokinetics. **Objective:** This paper highlights the structural elements of modern tetracyclines that impact biological properties. Furthermore, the rational design of new tetracyclines provides excellent development potential in the future. **Material and methods:** Firstly, the relevant data were found using the Clarivate Analytics Web of Science database and the keywords "tigecycline", "omadacycline", "eravacycline", and "sarecycline". Secondly, the content selected the references (development of tetracyclines class, new tetracyclines design and obtaining the new derivatives, aspects related to structure-activity relationships). **Results :** Studies have shown that changes in the C7 and C9 positions of the naphthacene nucleus are the basis for increased antibacterial activity. In contrast, any modification in the C1-C4, C10-C12, C11a, and C12a positions negatively impacts the activity. Due to the tert-butyl-glycyl-amide moiety from the C9 position, tigecycline, a glycylcycline, has acquired an increased affinity for the ribosomal target and resistance to *tet* efflux proteins, resulting in a broader antimicrobial spectrum and a decrease in susceptibility to develop resistance. Omadacycline, bearing a neopentyl residue in the amino-methyl group from C9, shows a better pharmacokinetic profile. Amino-methyl cyclins are emerging as an important subgroup in the design of new tetracyclines. In the chemical structure of eravacycline's representative, the pyrrolidine substituent in the C9 position and the fluorine atom in the C7 position are the main optimizations that positively influenced the antibacterial spectrum and the potency. This new fluorocycline presents significant activity against Gram-positive and Gram-negative bacteria tetracycline-resistant. The chemical structure of sarecycline includes a notable change in position C7, which gives it an improved mode of action. Sarecycline proved to be very effective against Cutinebacterium acnes. Other valuable non-antibiotic effects of the new tetracyclines have been discovered: anti-inflammatory and immunomodulatory properties, anti-apoptotic activity, inhibition of proteolysis, angiogenesis, and tumour metastasis, neuroprotector effect. **Conclusions:** The evolution of the tetracycline class is exceptional through its development of semisynthetic and synthetic analogues of the third generation. By structural optimizations brought to the old representatives, its newly acquired members have increased potency and efficacy, even against resistant bacteria to tetracyclines. The future will determine more precisely the role of new tetracyclines in antibiotic therapy but also the treatment of other diseases.

Keywords: tigecycline,, eravacycline,, sarecycline,, biological effects

DEVELOPMENT AND EVALUATION OF NEW VESICULAR DRUG DELIVERY SYSTEMS CONTAINING INDOMETHACIN

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Background: Topical delivery of indomethacin (Ind) is known as an alternative of avoiding the adverse effects of this drug, associated with oral administration. To increase epidermal penetration, the drug can be encapsulated into vesicular drug delivery systems, like liposomes. These are lipid nanoparticulate systems that contain an aqueous cavity and ethanol that increase the elasticity and act also as a penetration promoter. **Objective:** The study aimed to develop and evaluate a liposomal system that contains 1% Ind as an active pharmaceutical ingredient. **Material and methods:** The vesicles were obtained using the dropping method, that included the following steps: the lipophilic mixture belonging to the ingredients of liposomes (cholesterol, lecithin, indomethacin, and ethyl alcohol) was added by dropping in the phosphate tampon under stirring. To reduce the dimension of the liposomes they were sized using two different methods: extrusion and sonication. In the next stage, this dispersion was incorporated in a hydrogel, based on Carbopol. The size and distribution of liposomes in the prepared dispersion was evaluated by microscopy. Both, the liposomal dispersions obtained by extrusion and sonication, respectively, and the two gels in which they were incorporated, were evaluated. The test was performed using

Franz cells, through two different types of membranes: Strat-M Membrane (M1) and Teknokroma Membrane-Filters Nylon (M2), for 8 hours. The samples were analyzed with a validated HPLC method. **Results :** Through microscopic analysis of the extruded liposomal dispersion, smaller vesicles were observed compared to those formed by sonication. The results of in vitro studies showed a concentration of Ind after 8 hours directly dependent on the type of test membrane. For all the samples analyzed, the results of the in vitro study showed lower concentrations of Ind released through M1 vs M2. Through M1 the concentrations of the drug released from the liposomal dispersions obtained by extrusion and sonication were 12%, respectively 22%, and from the two gels prepared were 10%, respectively 5%.Through M2 the concentrations of the drug released from the liposomal dispersions obtained by extrusion and sonication were 29%, respectively 23%, and from the two gels prepared were 18%, respectively 26%. **Conclusions:** The suitable technology applied to obtain liposomes in terms of the reduction of the size of particles is the extrusion method. The results of the in vitro released study of Ind were directly dependent on the type of test membrane used, and also on the technology applied to reduce the size of liposomal vesicles

Keywords: indomethacin, liposomes, extrusion, sonication

NEW CREAM FORMULATIONS FOR THE CURATIVE AND PALLIATIVE TREATMENT OF DIFFERENT TYPES OF BURNS

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Background: Burning represents tissue aggression resulting from excessive exposure to a thermal, chemical, electrical or radioactive agent. Silver sulfadiazine is known as a topical antiseptic that acts on the cell wall membrane. Formulated in creams and applied on burn tissues inhibits the main bacteria responsible for infections by its spectrum of activity. **Objective:** This study aims to develop and analyze the pharmaco-technical characteristics of three cream formulations based on silver sulfadiazine as an active ingredient that was incorporated in different cream bases. **Material and methods:** Three formulations with 1% silver sulfadiazine (AgS) were prepared. The ingredients used for the base of the first formulation (F1) were: paraffin, stearic acid, cetyl alcohol, glycerin, water, sodium lauryl sulfate, and for the formulations F2 and F3 were used the following ingredients: stearic acid, cetyl alcohol, almond oil, glycerin, Cosgard, water, and triethanolamine. For all three formulations physico-chemical and pharmaco-technical tests were applied to determine the pH, consistency, spreadability, and flow characters. The release capacity of the AgS from the proposed formulation was made by the Franz method through two types of membranes (synthetic membrane, Teknokroma, and skin-like membrane, Strat-M), in phosphate buffer pH 7.4, for a period of 24 h. The samples were analyzed spectrophotometrically at 297 nm. All the results were compared with the results obtained for an industrial product. **Results :** For all the proposed formulations the pH values were in the limit provided by Ph. Eur. 10. Penetrometer consistency (0.1 mm) of the creams varied between 238-262 and the formulation F2 had the biggest spreadability. The rheological behavior of the creams showed a pseudoplastic flow. The amount of the active substance released through synthetic membrane increased in the following order: F2>F1>F3, meanwhile through skin-like membranes the order changes to F1>F2>F3. In all cases, the results obtained were close to those obtained for the industrial product. **Conclusions:** It can be concluded that the best formulation in terms of the AgS released after 24 h through skin-like membranes was F1 as well as the fact that the concentration of cetyl alcohol from the base influences the amount of AgS released.

Keywords: burns,, silver sulfadiazine,, creams,, Franz method.

DETERMINING FACTORS WHEN CHOOSING A PHARMACY : PATIENT'S PERSPECTIVE

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Background: Every summer, pharmacy students experience the real aspects of working in a pharmacy, encountering tons of patients with different personalities, illnesses and day-to-day struggles. Therefore, striving to discover the patient and his needs should be on top of both the young graduate and experienced pharmacist lists alike. Thus, these questions emerge: How do patients choose their pharmacy? What are the taught process behind choosing one pharmacy over another, what do patients like and dislike regarding pharmacies, and what

upgrades would they like to see being implemented? **Objective:** The paper is set to be a starting point in showcasing the patients' choices and needs regarding their relationship with the pharmacy and the pharmacist, and to discover both the positive and negative factors they encounter stepping foot in a pharmacy, the upgrades they would like to see being unveiled, as well as selecting the best interior design ideas for pharmacies. Essentially, it is set to discover the process behind patients choosing a specific pharmacy over the other next to it. **Material and methods:** The chosen method of investigation is a questionnaire divided into 12 questions, both single and multiple-choice, completed by 194 respondents who frequent pharmacies, ages ranging from 15 to 67 years old with an average of 27 years old. The respondents were asked to provide answers, among others, on the best and worst factors when it comes to choosing a pharmacy and selecting the best interior design they would like to see displayed in pharmacies. **Results :** Collected data reveals that the leading factor in choosing a pharmacy is the pharmacist's professionalism and his professional relationship with the patient (68%), followed by the location of the pharmacy (48.5%), while the worst factor in choosing a pharmacy is the tight interior space, voted by 66% of the respondents. Regarding the upgrades the patients would like to see being implemented in pharmacies throughout Romania, the leading element is the delivery of both Rx and OTC medication right at their doorstep (55.75%). **Conclusions:** The study highlighted the importance of pharmaceutical care from the patients' perspective. The need to update the pharmacy's interior design is also a starting point in highlighting the choices and opinions of the patients about their view of the ideal pharmacy.

Keywords: pharmacy, choice, patients

REVIEW OF THE LITERATURE ON TOXICOLOGICAL RISKS IN RESTRICTIVE / RAW VEGETABLE-BASED DIETS (RAW VEGAN)

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Background: Nutrition is the basis of a healthy lifestyle. While regular consumption of vegetables is associated with beneficial effects on health, excessive consumption, as in the context of a raw food diet, may have undesirable consequences. **Objective:** This paper aims to highlight the risks consumers may be exposed to in case of an unreasonably high intake of raw vegetables. The presentation will address the most common toxic compounds with the highest potential for excess, the description of acute and chronic effects produced, doses, and possible risk reduction methods, depending on the compound. **Material and methods:** Web of Science, PubMed, Science Direct and Google Scholar databases were analyzed using keywords such as "chronic toxicity", "toxic dose", "toxic risk", "adverse effects", "raw plant products" "," Raw vegan ". **Results :** Toxic compounds present in common foods were observed, such as solanine and cachonine glycoalkaloids from potato and eggplant, tomatine tomato, amygdalin - cyanogenic glycosides from raw seeds and juices. Excess dietary fibre has an antinutrient effect due to phytic acid, leading to lower absorption of essential minerals and trace elements. Phytates and other natural inhibitors also influence enzymatic activity by interfering with key digestive enzymes, including amylase, pepsin and trypsin. Seaweed, considered a superfood, can contain toxic amounts of heavy metals, including arsenic. Goitrogenic substances, especially in the cruciferous family (cabbage, cauliflower), influence the thyroid gland's normal functioning, producing thyroid dysfunction. Soy also contains goitrogens as well as phytoestrogens. Hemagglutinin in beans, beet juice nitrates and other compounds may interact with certain drug treatments. **Conclusions:** While the benefits of a diet rich in raw foods are well proven, this paper emphasizes the importance of rational consumption and maintaining a balanced diet because even what is considered to be good and healthy, in too large quantities, can be toxic, with significant side effects. The food is like medicine, remedy or poison, the effect depending on the dose.

Keywords: raw plant products, toxic risk, adverse effects, excess

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NEW POLYMERIC FORMULATIONS OF CAFFEINE ENERGY THIN FILMS

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Background: Orodispersible films (ODFs) consists of one or multiple sheets containing substances that are dissolving fast in the mouth, forming either a suspension or a solution without mastication or water intake. ODFs present the following advantages: rapid absorption, avoidance of a first-pass effect, and convenient application.

Caffeine (CAF) is a trimethylxanthine found in Camelia sinensis or Coffea arabica species, acting as a central nervous system stimulator. **Objective:** This study aimed to prepare ODFs with caffeine as the active pharmaceutical ingredient (API), having good properties such as a disintegration time smaller than 3 minutes. Four ODFs formulations were prepared with 8% or 9% of film-former-$HPMC_{E5}$ coded CAF1, CAF2, CAF3, and CAF4. **Material and methods:** The CAF-ODFs (CAF1 ($HPMC_{E5}$-8% and caffeine), CAF2 ($HPMC_{E5}$-8% and caffeine with citric acid), CAF3 ($HPMC_{E5}$-9% and caffeine with citric acid), and CAF4 ($HPMC_{E5}$-9% and caffeine with sodium benzoate)) were prepared by solvent casting method. The films were investigated in terms of folding endurance, disintegration time, thickness, average mass, breaking strength, adhesiveness, the dosage of the active substance, dissolution test, water absorption capacity, and pH, respecting the in-force pharmacopoeias and the methodology of other representative studies already published in the literature. **Results :** The prepared films were opaque, smooth on one side, and slightly rough on the other side. All four formulations had a disintegration time smaller than 3 minutes. Considering the dissolution test, CAF1, CAF2, and CAF3 exhibited concentrations of 100% at 30 minutes whilst CAF4 ($HPMC_{E5}$-9% and caffeine with sodium benzoate) revealed concentrations of 100% at 5 minutes. The average mass of the four formulations was for CAF1 65,6 mg, CAF2 □ 57,1 mg, CAF3 94,4 mg and CAF4 51,0 mg. The pH evaluation showed that CAF1 and CAF4 had a pH of 6.47 and 6.15, which are close to the saliva pH (6.1-7.6), whilst CAF2 and CAF3 had a more acidic pH of 3.69 and 2.92. API dosage was within the limits accepted by the European Pharmacopoeia (Ph. Eur. 10) of ±15%. **Conclusions:** Orodispersible films were successfully prepared; thin polymeric films with 10 mg caffeine and a diameter of 3.14 cm were obtained. Considering the dissolution test, the therapeutic effect will be installed quickly, CAF-ODFs representing an excellent option for patients with headaches and hypotension.

Keywords: thin films,, caffeine,, HPMCE5,, disintegration behavior

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ACHILLES' HEEL OF MODERN ANTIBACTERIAL (FLUORO)QUINOLONES – THE SIDE EFFECTS

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Background: The class of antibacterial fluoroquinolones continues to evolve by acquiring new therapeutically valuable representatives. Novel compounds such as besifloxacin, delafloxacin, finafloxacin, lascufloxacin, levonadifloxacin, nemonoxacin, and zabofloxacin are shaping a new generation (the fifth). Their advantages are the spectrum of activity, no bacterial resistance, and fewer side effects compared to older generations. **Objective:** The purpose of this study is to highlight the side effects of modern fluoroquinolones used in therapy compared to previous generations, as well as to determine the factors that contribute to their occurrence and safe administration. **Material and methods:** A literature search was conducted to collect relevant published research using PubMed and Google Scholar (covering the last decade, from 2012 to March 2022). The search terms used were "fluoroquinolones", "adverse reactions" and "side effects". These terms have been combined with the name of each modern representative. **Results :** Besifloxacin ophthalmic solution has proven to be a safe and efficient remedy for bacterial conjunctivitis, with various potential therapeutic benefits over other topical fluoroquinolones. Finafloxacin exhibits better antibacterial action in low pH conditions, according to some in vitro and in vivo investigations, having a substantial bactericidal activity in certain difficult-to-treat diseases. Furthermore, it presents a favourable safety and tolerability profile when delivered orally or intravenously. With oral administration (once a day), nemonoxacin is well tolerated; the reported side effects are comparable to those of older quinolones. Some gastrointestinal issues such as nausea, vomiting, somnolence, and hypotension have been reported for delafloxacin, although it is generally considered well-tolerated. Zabofloxacin presents a similar adverse profile to moxifloxacin. However, the two salts of zabofloxacin are well tolerated. During lasculofloxacin monotherapy, it has not been observed any severe adverse effects. All recorded side effects have been minor in intensity for multiple doses, with only fever and headaches, primarily due to the combinations with other treatments. Most preclinical safety studies of levonadifloxacin have been shown to provide favourable alternative treatment for complicated and dangerous bacterial infections. That is due to its apparent lack of possible severe side effects such as phototoxicity, QT interval prolongation, or liver toxicity, allowing administration of higher therapeutic dosages. **Conclusions:** In the last decade, the development and therapeutic use of new fluoroquinolone antibiotics have increased the possibility of treating infections caused by resistant bacteria to commonly used antibiotics. In addition, these new representatives present several advantages, such as a broad antibacterial spectrum and the absence of some severe side effects common to older fluoroquinolones.

Keywords: fluoroquinolone, side effects, safe administration, drug profile

DIRECT VERSUS INDIRECT CHIRAL SEPARATIONS BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY OF AMINO ACIDS - ADVANTAGES AND LIMITATIONS

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Background: Amino acids are mixed organic compounds, derived with mixed functions of carboxylic acids, very important both for the human body and also for nature whose biological activity is influenced by their stereoisomeric configuration. The discovery and development of new stationary chiral phases represents a permanent challenge in the chiral analysis, taking into consideration the large number of actives substances that presents at least one asymmetric carbon in their molecular structure. **Objective:** Our study aims to highlight the main practical strategies used in the direct and indirect chiral analysis of the optical isomers of the main amino acids found in therapy as tryptophan, 5-hydroxy-tryptophan, tyrosine and alanine. **Material and methods:** An analysis of scientific literature for the last 15 years in the databases such as PubMed, Science Direct, Medline was conducted to assess the most broadly used chiral stationary phases for enantioseparation of amino acids, respectively the most commonly used chiral derivatizing agents. **Results :** In order to select the optimal method of chiral separation the analyst must take into account the existing steric interactions between the analyte and the chiral selector, respectively between the analyte and the chiral derivatizing agent. From the existing data in the literature, in the case of indirect methods used to detect optically detectable amino-diastereomers, the most commonly used derivatizing agents are OPA (o-phthalaldehyde) and chiral-thiol reagents. In the case of direct chromatographic methods of chiral separation, the most effective chiral columns in enantioseparation of amino acids have been shown to be those based on polysaccharides such as amylose and cellulose, respectively macrocyclic antibiotics such as teicoplanin. **Conclusions:** Both the indirect and the direct separation methods provide various options to achieve separation and quantitation of amino acids enantiomers and which of the two methods would be the best choice is greatly dependent on the chemical structure of the chiral analyte. Despite the multitude of existing chiral columns and the recent development of direct chromatographic methods of chiral separation, chiral derivatization using chiral derivatizing agents remains a reliable option in chiral analysis due to low analysis costs but also due to the versatility offered by the derivatization chiral agent.

Keywords: Chiral derivatizing agent, chiral stationary phase, derivatization, chiral separations

MILITARY MEDICINE

THE BIDIRECTIONAL RELATIONSHIP BETWEEN NON-ALCOHOLIC FATTY LIVER DISEASE AND METABOLIC SYNDROME

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Background: Non-alcoholic fatty liver disease (NAFLD) is a spectrum of liver diseases that can range from simple fatty infiltration of the liver (steatosis) to focal necrosis and inflammation (steatohepatitis) and can progress to fibrosis and cirrhosis. Commonly associated with obesity, hypertension, dyslipidemia, and type II diabetes (metabolic syndrome), non-alcoholic fatty liver disease is now considered a hepatic manifestation of metabolic syndrome. **Objective:** Through this study, we wanted to highlight clinical-evolutionary and epidemiological aspects of the association between metabolic syndrome and non-alcoholic fatty liver disease. **Material and methods:** We conducted a prospective, questionnaire-type study, which included patients diagnosed with NAFLD between November 2020 and January 2022. Patients underwent laboratory tests and completed a questionnaire, based on which we obtained more details about their antecedents, hereditary collateral antecedents, and information related to lifestyle and eating habits. We divided the patients into two different groups depending on the presence of the diagnosis of metabolic syndrome. Correlations were also made between eating habits, metabolic syndrome, and NAFLD, but also between laboratory results and the two pathologies. **Results :** Our study included 74 patients diagnosed with non-alcoholic fatty liver disease, of whom 41 were men and 33 were women. The patients included in the group were between 28 and 83 years old, and the average was 57 years old. Metabolic syndrome was present in 49 of the 74 patients, with a prevalence of 66%. Among patients with metabolic syndrome and NAFLD, 75% had central obesity (waist circumference (cm)> 88 (W) / 102 (M)) (p = 0.016) and 88% had systemic obesity (BMI> 30) (p = 0.038), both factors having a statistically significant role. Type II diabetes had a prevalence of 72% in the group with metabolic syndrome, insulin resistance having an essential role in the evolution of both diseases, being statistically demonstrated p= 0.0001. **Conclusions:** NAFLD is a progressive disease, the main purpose after establishing the diagnosis is the treatment and prevention of the development of complications. Given the lack of specific treatment and the frequent association with metabolic syndrome, the correct information of patients, awareness of the importance of lifestyle changes (diet, improved insulin resistance, physical activity), is today the standard of care.

Keywords: NAFLD, metabolic syndrome, complications, treatment

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SMALL LUMBAR DISC HEIGHT – A POSSIBLE RISK FACTOR FOR LUMBAR DISK HERNIATION RELAPSE

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Background: The relapse of lumbar disc herniation incidence, following microdiscectomy, is between 4% to 16%, with 85% of relapses being at the same spinal level. Additional indicators are necessary in order to detect patients at risk. **Objective:** The aim of our study was to analyze the existence of predictable risk factors on MRI for herinated disk relapse. **Material and methods:** Two hundred consecutive patients that underwent microdiscectomy in 2020 for lumbar disk heriniation at the Neurosurgery Department of Emergency County Hospital of Targu Mures were included in this study. Twenty-two had surgery for reccurence of disk herniation. MRI T2-weighted imaging was analyzed by measuring the height of the herniated discs. Mean disk heights were calculated and T Student test was used to determine if there a difference between the means of the discal heights for first surgeries and recurrences. **Results :** Mean values were of 1,0 ± 0,22 DS cm for fist surgery and 0,81 ± 0,13 DS cm for reccurent disk herniation. A statistically significant (p=0,004) difference was discovered between the two groups. **Conclusions:** Reduced lumbar disc height seems to be an indicator for higher risk of relapse in patients operated for disk herniation. This could be taken into consideration as an indication for a more extensive approach at the initial surgery.

Keywords: herniated, disc, height, relapse

A REASON WHY TELEDERMATOLOGY SHOULD BE THE NEXT STEP

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Background: Dermatology is one of the most heavily used teleconsultation services in the Department of Defense. The heavy use of teledermatology demonstrates the significant impact that skin disease has on deployed service members and the important contributions military dermatologists make to the worldwide mission. **Objective:** Medical professionals in various areas of responsibility often encounter unusual skin diseases from all over the world. The aim of this paper is to emphasize the negative impact that unproperly treated or unrecognized infectious diseases could have upon service members' health, putting the mission at risk. One of the most common pathogens is Sarcoptes scabiei which can frequently be the cause of an endemic situation among military young men. **Material and methods:** I present the case of a young male patient who has the specific profile of a service member. All the information about our patient was collected using the offline-teleconsultation system of the department of dermatology of the General Hospital of Valencia, Spain. **Results :** The materials and methods used, represented by imagines of the specific lesions directed us to the clinical diagnosis of Scabies. Considering the public health guidelines, we recommended 24 hours of isolation until the first topical Permethrin cream treatment had been carried out. To prevent re-infestation, all household members and close contacts have been treated at the same time with oral Ivermectin. Environmental disinfection is advised for scabies, such as washing linen, towels, and clothing in hot water. **Conclusions:** In conclusion, the information above proves us teledermatology's importance regarding the diagnosis in early stages of scabies and other infectious dermatological diseases affecting deployed personnel. Choosing the proper treatment for the patient and the others service members, in association to adequate environmental disinfection, we are able to reduce costs and prevent unnecessary evacuations by providing virtual health care to the members of The Department of Defense worldwide.

Keywords: teledermatology, teleconsultation, scabies, infection

THE EFFECTS OF WHITE PHOSPHORUS AMMUNITION

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Background: White phosphorous is a chemical obtained from phosphate rocks, with a wax-like texture and a garlic smell, used in almost every mundane product immaginable (food aditives, fertilizers). Known as Willie Pete (WP) it combusts spontaneously at temperatures above 30 °C and due to its pyrophoric nature and the extreme heat and dense smoke generated by the combustion, it is used by the military as a smoke-screen, in tracer bullets and as an incendiary weapon. Oxidation to P2O5 continues until the whole substrate is consumed, the reaction being difficult to manage. Thus, the usage of this kind of ammunition with the aim of camouflaging or targeting strategic objectives such as oil deposits is not prohibited by any international law. **Objective:** The purpose of this paper is to outline the harmful potential of the WP bombs and ammunition used in various military operations, describe the mechanisms of injury and main routes of exposure (skin, inhallation and ingestion). **Material and methods:** Various research papers from military reports, press articles, available literature. **Results :** WP bombs have been used as a multi-purpose weapon since its` discovery. Reports claim the use of Willie Pete during the present military conflict in Ukraine, also by Israel in Gaza in 2009, USA in Fallujah, Iraq. WP combusts spontaneously when in contact with oxigen, water or any other oxidizing material, generating a yellow flame and a dense smoke which contains P2O5 among other products, and around 10%-15% unconsumed WP. The smoke interferes with infrared cameras and tracking devices and also marks the target for an allied artillery attack. The P2O5 reacts with atmospheric moisture and creates phosphoric acid. These products and the remnant unburned WP represent the main factors of danger. WP lesions can be categorised as immediate (chemical burns- second to third degree due to the marked lipophility and facile skin absorbtion, with eye, skin and respiratory tract burns) and tardive (systemic toxicity in 3 stages: 1-gastrointestinal, 2-asymptomatic phase and 3- multi-organ failure and CNS

injury). Vomitus and feces have a strong garlic-like smell and are capable to cause burns to the skin. The burns also possess the same characteristics. **Conclusions:** Due to its remarkable reactivity and caustic properties, this common material posesses major destructive potential. Lesions can be treated, but when it comes to a combat context, the lack of resources and the probability of mass-casualty events decrease the rate of successful treatment and survival, leading to a deficient combat capacity.

Keywords: White phosphorous, pyrophoric and lipophilic, chemical burns, systemic toxicity

UPPER GASTROINTESTINAL BLEEDING IN ELDERLY – CLINICAL FEATURES AND RISK FACTORS

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Background: Upper gastrointestinal bleeding is a medical emergency. It may be caused by gastritis, gastric ulcer, esophageal varices. Its manifestations are marked by hematological changes. **Objective:** The purpose of our study was to identify clinical features and risk factors associated with upper gastrointestinal bleeding in elderly. We also identified changes in laboratory values at admission. **Material and methods:** We performed a retrospective study which included elderly diagnosed with upper gastrointestinal bleeding between January 2020 and December 2020. We determined the prevalence of high blood pressure, alcohol consumption and anticoagulant medication in the occurrence of upper gastrointestinal bleeding. We also identified main clinical features and laboratory changes (such as anemia, leukocytosis) associated with the disease. **Results :** The study included 106 patients diagnosed with upper gastrointestinal bleeding, of whom 60 were males and 46 were females. The mean age was 74.88 +/- 7.63. Almost 87% of patients presented hematemesis and melena. The prevalence of gastritis was 23% and high blood pressure was identified in 34% of patients. Most of men were chronic alcohol drinkers (91%). The presence of melena and hematemesis has been associated with alcohol consumption (both values of p were lower than 0,05) . A statistically significant association (p=0,0059) was identified between oral anticoagulant medication use and hematemesis. The prevalence of anemia was 92% and most patients had a severe degree (44%). Leukocytosis was present in 60 patients. **Conclusions:** This study concluded that hematemesis and melena are common manifestations of upper gastrointestinal bleeding and most patients experience sever anemia on admission. Alcohol consumption and oral anticoagulant medication remain important risk factors for the disease.

Keywords: Upper gastrointestinal bleeding, Elderly, Anemia, Hematemesis

POST-TRAUMATIC STRESS DISORDER

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Background: Trauma is a deeply distressing or disturbing experience, a physical injury. Post-traumatic stress disorder was defined as a psychological reaction occurring after experiencing a highly stressing event (such as wartime combat, physical violence, or a natural disaster) that is usually characterized by depression, anxiety, flashbacks, recurrent nightmares, and avoidance of reminders of the event. **Objective:** Presenting the connection between trauma and post traumatic stress disorder, as well as the possible treatments and therapies. **Material and methods:** I studied the cases of war veterans, subject of how the experiences in the battle field influenced the life after. Many current military personnel who have been in theaters of operation and war veterans suffer from post-traumatic stress disorder (PTSD). According to studies published by the National Center of Post-Traumatic Stress Disorder, 14% of war veterans in Iraq and Afghanistan and 30% of Vietnam war veterans have experienced PTSD. **Results :** The research I made shows that when we are endangered, the sympathetic nervous system will be activated, suppressing the parasympathetic nervous system- the conscious part. Therefore, the simpathetic nervous system acts autonomously, without conscious control, and prepares the body for a run, fight, to hide or if necessary to freeze. If this reaction frees us from the danger to which we have been exposed, we gradually regain our inner balance. **Conclusions:** Pacients can be stabilized using 2 methods: therapy and medication. The treatment is frequently completed by combining pharmacological therapies with nonpharmacological ones. Medication may be necessary to control physiological symptoms, which bring the patient into a state capable of collaborating and tolerating psychotherapy.

Keywords: disorder, veterans, trauma, traumatic

MILITARY MEDICINE- THE GUARDIAN ANGEL IN A PANDEMIC ERA

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Background: The World Health Organization declared the COVID-19 occurrence a Public Health Emergency of International Interest on 30 January 2020, and a pandemic on 11 March 2020. How the COVID-19 pandemic illustrated the importance of military medicine and its vital role as a pillar of the national healthcare system has been astonishing. The Romanian Military Medicine took the lead in the early stages of the medical response to the pandemic, becoming the first port of call for suspected cases, all the while maintaining their regular activity.Romanian Military Doctors have responded promptly to the most dangerous enemy since the first cases were announced.The "Major Team" that was built from a range of specialists with wide medical experience did their best and embraced their medical purpose. **Objective:** The purpose of this study is to highlight the importance of the Military Medicine during a global crisis. A well-organised structure such as Military Medical Personnel can make a perceptible change in a disaster such as Coronavirus pandemic. The professionalism and dedication are shown as well in the name of saving lives. The implication of Military Medicine had remarkably changed the perspective of a dangerous situation that humanity had to face. **Material and methods:** This project is a meta-analysis of the studies and research that has been made on the topic of SARS-CoV-2 Pandemic and the importance that Military Medicine had on this battlefield. Phrases and key-words such as "military medicine" and "Coronavirus" were used as search terms, to express the topic and the guideline through the data. The information required for the project has been developed from Medical Science Articles such as PubMed or personal archives of the coordinator. **Results :** Clinical remission, enhancement of triage and a considerable number of people declared as "Covid-19 cured" are some of the remarkable results that showed up after the moment of implication from the army medical specialists.The project emphasize the major changes that had been made into the medical system to help its improvement through a difficult situation. **Conclusions:** After the analysis of the data and criteria that have been showed by numerous articles, both military and medical entitled, the purpose of the project is to prove that Military Medicine has a major contribution in a historic time, when people fight blindly against an unseen threat: SARS-CoV-2. The unlimited dedication, professionalism and limitless hours of work and research done by the Military Medical Personnel came out to the light of the tunnel.

Keywords: SARS-CoV-2, Military Medicine, Coronavirus, Pandemic

THE EFFECTS OF HYPOBARISM ON PILOTS

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Background: The decrease of the atmospheric pressure determined by the real or simulated flight in the barocamera determines changes of the gas pressure at the level of the tissues and in closed cavities of the human organism. The effects of hypobarism are more common in the middle ear, maxillary sinuses, frontal sinuses, digestive tract and lungs, they are favored by various conditions or too rapid rise. These painful syndromes are called barotrauma. Other effects of rapid pressure drop in the aeronautical environment occur in the case of depressurization of the cabin of the aircraft in flight at high altitudes, in non-pressurized aircraft, hot air balloons, in paratroopers jumping from high altitudes or in simulated flight barocamera at altitudes above 5500m. Under these conditions, dysbarism occurs in which nitrogen bubbles form which dissolve in some tissues (aeroemphysema) or form in the circulatory system (aeroembolism). **Objective:** The aim is to make known certain incidents caused by hypobarism specific to aeronautical personnel. **Material and methods:** For the veracity of the information, we analyzed the results obtained by pilots and military paratroopers in the INMAS barocamera, where conditions similar to flying at altitudes above 5500m were reproduced. Upon entering the barocamera, the pilots were informed about possible incidents such as: otalgia, sinus pain, odotalogies, which may occur during the control in the barocamera. **Results :** The study aimed to analyze the incidence of barotrauma and the effects of dysbarism related to the causal factors described in the literature: altitude, duration of exposure, age, some conditions, poor diet, fatigue, alcohol, dehydration and high fat mass. The most common cases are 79% at altitudes above 9000m,

with an increased risk of military pilots re-exposing at altitudes above 5500m within 48 hours. **Conclusions:** Both barotrauma and the effects of decompression can occur in the activity of aeronautical personnel, being treated only by doctors specializing in aerospace medicine. The simulated flight in the barocamera is performed in order to familiarize the aeronautical personnel with the described incidents, in order to increase the safety of the flight and the parachutes.

Keywords: hypobarism, barotrauma, decompression, altitude

FAST- ULTRASONOGRAPHY TAKEN TO THE BATTLEFIELD

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Background: In the austere environment of war, the lesions that are frequently the cause of death are not the superficial ones. The greater damage is usually the one that paramedics on the field are not able to observe directly with their eyes. The necessity for establishment of the presence of a hemoperitoneum or hemopericardium led to the evolvement of the ultrasound technology so that it can be used easily in any place, at any time. FAST (Focused Assessment with Sonography for Trauma) is the result of many events in history, and the response to this critical need on the operational theatres. **Objective:** With this review, we wanted to take a holistic approach on the ultrasonography, in order to have it all laid down on how it led to the development of FAST. Also a point of interest was represented by the assessment of its strengths and downsides. **Material and methods:** We searched for relevant results on PubMed and also in the publications from Cambridge's journal entitled "Prehospital and Disaster Medicine". The articles that were suited for our field of interest were then analyzed and summarized in this review. **Results :** For rapid, non-invasive evaluation of the injury, FAST was shown to be very effective in diagnosing the different types of internal bleeding, but not as effective in helping the detection of organ injury. It was demonstrated that it is highly effective not only in stationary medical facilities, but also in motion, while transporting the patients. **Conclusions:** Even though it has a moderate diagnostic performance, its high specificity makes it really useful on the battlefield, where in the absence of a CT, every information about the status of the patient can lead to rising or lowering the chances of his survival. Since it is shown that hard times lead to a forced but sure development, the improvement of FAST will continue to help those wounded in wars.

Keywords: ultrasonography, FAST, trauma

THE WORLD WAR I VERSUS MODERN MEDICINE -HOW THE NECESSITY CREATED INNOVATION

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Background: The First Word War brought innovation in artillery, making it more efficient in producing new types of pathologies and deadly injuries. In addition to it, heinous infections weakened and threatened the injured. Gas gangrene (frequently caused by Clostridium perfringens) was blamed for more than 50% of limb amputation- lives ended due to lack of adequate treatment rather than from direct wounds. The medical sciences adapted, the difficult times forced the birth of progress and as a response, the first mass killing of the modern era resulted in saving countless lives. **Objective:** Our goal is underlining the medical benefits of confronting the first dark side of 20th century. This historical event led to a metamorphosis in: surgery, ophthalmology, pharmacy, emergency medicine and intensive care. The urge for efficient casualties care elevated survival rates and helped to achieve today`s performance. **Material and methods:** For research, we used 12 international publications. We analyzed the historical data, medical statistics and journals, converging to a veridic assessment and understanding of the physical and emotional necessity of technical-tactical improvements. **Results :** The following study led us to discover the medical implications of the War. Undoubtedly, reconstructive surgery was born then the first grafts helped the mutilated soldiers in the trench warfare serving orthopedic and aesthetic purposes. Emergency surgery progressed as the laparotomies were used to treat abdominal wounds. "Carrel-Dakin Method" was adopted in Europe implying the antiseptic irrigation of the wound before opening. There were invented a variety of splints. Citrate added into the transfusion blood conferred the possibility of transport and conservation of the biological product. The diversity of eye injuries required rapid development of the ophthalmology. **Conclusions:** Techniques

and medical resources that we take for granted nowadays (ambulance, antiseptics, anesthetics /transfusion, laparotomy, prosthetics) emerged from the past`s suffering and from humankind believing in life after war.

Keywords: trench warfare,, surgery,, antiseptic,, grafts

IAW-LI: IRAQ/AFGHANISTAN WAR-LUNG INJURY

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Background: Between 2001 and 2021, around 3 million US military personnel served in support of operations in Afghanistan and Iraq. Land-based soldiers were exposed to particulate matter and other inhalational exposures such as burn pit combustion, improvised explosion devices, desert dust. Veterans, who were healthy before the enrollment, developed various respiratory symptoms such as asthma and respiratory difficulties. After several studies on the troops in Iraq and Afghanistan, an increased prevalence of respiratory symptoms and lung disease was remarked among post-deployment veterans. **Objective:** The aim of this study is to analyze and outline the imprints of war on personnel's post-deployment respiratory health. **Material and methods:** In order to highlight the respiratory diseases of the veterans, we used various data from Annals of The American Thoracic Society, Burnpits360.org and National Library of Medicine reports. **Results :** 38 patients who participated in the wars were subjects to investigation of pulmonary function through Pulmonary function tests and lung biopsies. According to Burnpits360.org registry, about a quarter of the subjects said they worked at the burn pit duties, and a half of them didn't want to give information concerning this. Over half of the veterans reported general respiratory difficulties including shortness of breath, asthma-related symptoms and chronic cough. Furthermore, about 10% of the participants reported that they were diagnosed with cancer after their deployment. **Conclusions:** As we can observe from the results, an important percentage of the personnel that served in Iraq and Afghanistan has developed lung injuries. The exposure to elevated levels of fine particulate matter from sandstorms, burn pit combustion products, improvised explosive devices, and diesel exhaust particles leaded to potential adverse health effects.

Keywords: post-deployment, war, respiratory diseases, burn pit

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THE EXAM SESSION OF THE MILITARY STUDENTS INCLUDES THE CONSUMPTION OF COFFEE, TOBACCO AND ALCOHOL?

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Background: The exam session is the period in which military students go through high levels of stress, both on an emotional and academic level so, some of them consider that alcohol and nicotine helps them relax, while using caffeine as a stimulant. This research studies the way cadets manage the exam session and how the use of caffeine, alcohol and nicotine influences them. **Objective:** The objective of the research is to prove the directly proportional relationship between the use of coffee, nicotine, alcohol, and the amount of stress cadets go through during the exam session. **Material and methods:** Psychological methods were used for our investigation: conversation, explanation and questionnaire. It comprised a number of questions regarding the use of coffee, tobacco and alcohol. There have been 279 questioneered military students. **Results :** Following the investigation, 79.9% of the cadets confirmed to have accumulated a high stress level during the exam session; 60.9% consider that stress makes them use coffee, tobacco and alcohol; 64.2% drink coffee in order to concentrate better, 22% of which drink 1 coffee a day, 41.5% drink 2 coffees a day, 20% drink 3 coffees a day, while 16.5% drink more than 3 coffees a day; 52% of the cadets see the cigarette break as an opportunity to boost their morale, and for reference, 28% of them smoke between 1 and 5 cigarettes a day, 26.7% smoke half a pack, 26.7% one pack, and the other 8.7% smoke more than a pack a day. 18.3% of the cadets confirmed that, at the end of their daily study period, alcohol represents a way of relaxing, but consumed moderately. All things considered, 59.1% of them don't consider mixing tobacco, alcohol and coffee as helping them manage the exam session. **Conclusions:** The research proves the fact that the military stress, together with the academic one, cause the presence of attitudes and conducts which are based on excessive use of coffee, alcohol and tobacco during the exam session, finding the necessary remedies to avoid such addictions during this time period and not only proving to be necessary.

Keywords: stress, military, cafeine, student

THE EFFECT OF ANTI-VEGF INTRAVITREAL INJECTION ON DRUSEN

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Background: Drusen are extracellular focal deposits of various substances, located between retinal pigmented epithelium and Bruch's membrane. They are considered a hallmark for early age macular disease (AMD), but they can also be a result of normal aging. Intravitreal injections of anti-VEGF agents, a revolutionary treatment of common retinal diseases, became the first line treatment in wet AMD. These drugs are administrated under the form of repeated intravitreal injections, over a various time interval, blocking the growth of abnormal blood vessel in the choroid and thus inhibiting the capillary leakage and helping the improvement of visual acuity. **Objective:** This study aims to determine whether intravitreal injections with anti-VEGF agents will also lead to a decrease in area of different Drusen over the time, alongside their known therapeutic effect on the neovascular membranes and exudative elements. **Material and methods:** We followed up a sample of 5 patients and 28 different Drusen were identified. Every area of Drusen was measured on OCT scans before and after the administration of the intravitreal injection. The results were compared to evaluate the changes in size of the Drusen. **Results :** Most of the Drusen (25) were found to have regressed after intravitreal injection, only one of them showed no change in size and 2 increased. A moderate positive correlation (r Spearman 0.5538) was observed, which is considered to be statistically significant ($p<0.0001$), regarding the reduction of the Drusen after the intravitreal administration of anti-VEGF factors. The maximum change of a Drusen was -85.33% from its initial area and the mean decrease represents -25.55%. All these were observed in addition to the expected diminutions of the neovascular membrane and exudative elements. **Conclusions:** The treatment with anti-VEGF agents, used in many retinal diseases seems to be effective in the downsizing of Drusen based on the patients that we studied. However, further studies with larger number of subjects should be conducted for achieving a point of certainty.

Keywords: Drusen, AMD, Intravitreal injection, anti-VEGF agents

A SINGLE CENTER EXPERIENCE: MANAGEMENT OF PATIENTS WITH LOW-GRADE GLIOMA

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Background: Gliomas are primary brain tumors that originate in the glial cells of the brain or in the spinal cord. They include astrocytoma, oligodendroglioma, ependymoma and oligoastrocytoma, divided into 4 histological degrees depending on aggression and malignancy. Low-grade gliomas (grade I and II) occur more frequently in children and young adults, with a higher degree of survival compared to other gliomas (grade III and IV). The aim of this study was to observe the evolution in the management of low-grade gliomas, and what exactly influences the postoperative evolution. **Objective:** We observed the evolution of low-grade gliomas (I and II) in the last nine years, in patients under the age of 40, considering the histopathological diagnosis after the 2016 WHO classification of low-grade gliomas, the age of at the time of neurosurgery, the location of the tumor, the main symptoms and signs of the patients and the degree of resection of the tumor. **Material and methods:** In this retrospective study, we introduced patients aged <40 years diagnosed with low-grade gliomas, from the last nine years (2013-2021) from the Neurosurgery Department of the Târgu Mureș County Emergency Clinical Hospital. **Results :** The study includes a number n = 44 patients, of which 23 men and 21 women. The study addressed low-grade gliomas with intracranial localization, the lesions having a predominance in the frontal lobe (n = 11 patients, 25%), but also in the cerebellum (n = 10 patients 22.72%). Those located supratentorial represent a 3 times higher risk of recurrence (33%) than those located infratentorial (5%). The unfavorable postoperative evolution is 5 times higher in the case of a subtotal resection. **Conclusions:** Prompt surgery provides a better postoperative evolution, the symptoms are almost completely remitted, and the degree of malignancy is low. Following the resection, the gliomas located supratentorial had a degree of recurrence 3 times higher than they infratentorial ones. An unfavorable postoperative evolution is 5 times higher in those with subtotal resection. Males have a 2 times higher

risk of recurrence. Age and tumor grade were not criteria for recurrence. Grade I gliomas were more common in those under 18 years of age.

Keywords: low-grade gliomas, Intracranial, surgery, recurrence

THE EVALUATION OF PULMONARY FUNCTION AFTER INVASIVE MECHANICAL VENTILATION (IMV) FOR COVID 19 PATIENTS

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Background: COVID-19 infection has been considered since March 2020 as a major health problem, a pandemic, according to World Health Organisation. Invasive mechanical ventilation (IMV), using positive pressure, is a non-physiological intervention that can be lifesaving in COVID-19 patients. **Objective:** The aim of this study was to investigate the incidence of invasive mechanical ventilation complications in pneumonia caused by SARS-CoV-2 infection and to describe the changes in respiratory function and patterns of barotrauma after positive pressure ventilation at 6 months after hospital discharge. **Material and methods:** Our prospective study was conducted over a period of 1 year and 6 months in Intensive Care Unit of County Clinical Hospital of Târgu Mureș and is based on 56 mechanically ventilated patients (33 non invasive and 23 invasive). We included into this study patients with a positive RT-PCR SARS-CoV-2 infection test, moderate and severe forms of respiratory failure, mechanically ventilated during hospitalization. Patients who died after hospital discharge and those who refused processing their personal data were excluded from the study.We analysed the following data: chest X-ray or CT scan, pulmonary function tests. The data were statistically analyzed using the minitab program. **Results :** Although invasive mechanical ventilation increases the risk of developing pulmonary fibrosis ($p = 0.025$) and restrictive lung disease ($p = 0.001$), patients are not oxygen dependent ($p = 0.174$). Also, the number of hours of mechanical ventilation increases the risk of developing restrictive lung disease ($p = 0.011$), but no statistically significant correlation was observed on pulmonary fibrosis ($p = 0.193$), oxygen dependence ($p = 0.365$). **Conclusions:** Invasive mechanical ventilation plays an essential role in the management of respiratory failure caused by SARS-CoV-2 infection, but also increases the risk of long-term complications, such as: pulmonary fibrosis, restrictive lung disease.

Keywords: fibrosis, restrictive, mechanicalventilation

ANASTOMOTIC LEAKAGE – THE “ACHILLES’ HEEL” AFTER RECTAL CANCER SURGERY

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Background: Despite all the major progresses over the past two decades in surgical treatment for colorectal cancer, anastomotic leak remains one of the most important postoperative complications. The frequency of occurrence varies within quite broad limits (from 1.5% to 16% in different studies), being more common in case of rectal involvement compared to colon implication. **Objective:** The aim of this presentation is to determine the most important risk factors for anastomotic leakage after rectal surgery for cancer. **Material and methods:** We have retrospectively analyzed 193 consecutive cases of patients who underwent rectal surgical procedures for cancer, between January 2017 and December 2021, in the 1st Surgical Department of the County Emergency Clinical Hospital of Târgu Mureș. Both mechanical and manual anastomosis were included. The reviewed preoperative factors were: demographic data (age, sex), emergency or elective surgery, the association of diabetes, cardiovascular or lung disease, anemia, neutrophil-to-lymphocyte ratio (NLR) and hypoproteinemia. Based on statistical analysis, we tried to establish valid correlations between the studied risk factors and the occurrence of a fistula in the postoperative evolution of the patients. **Results :** Out of the 193 patients, 10 of them (5.18%) presented anastomotic leaks. We found a statistically significant correlation between the occurrence of the anastomotic leak and the following factors: male gender, anemia (with hemoglobin levels under 12 g/dl for women and below 13.5 g/dl for men), NLR (with the cutoff value of 3.55) and hypoproteinemia (with the total protein level of less than 6.6 g/dl). Patients with NLR higher than 3.55 have a 4.68 times increased risk of an anastomotic leak than patients with NLR under this value. **Conclusions:** Low levels of hemoglobin, a high neutrophil-to-lymphocyte ratio and total protein ratio are highly predictable for the development of an anastomotic leak. These patients

require additional measures such as preoperative albumin administration or blood transfusion in order to further maintain the viability of anastomosis after surgery for rectal cancer.

Keywords: rectal cancer, anastomotic leak, risk factors, neutrophil-to-lymphocyte ratio

NEW THREATS IN THE FIELD OF INFECTIOUS DISEASES IN A WARMING WORLD

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Background: Climate change is one of the biggest challenges for the humanity nowadays, with unprecedented consequences. Global warming affects permanently frozen environments (glaciers, permafrost), from which viable microorganisms, including human pathogens that have remained dormant for ages, are released in the natural ecosystems. **Objective:** The aim of this study is to analyze the impact of climate changes, especially of global warming on infectious diseases and to emphasize the hidden aspect of this phenomenon on the global public health. **Material and methods:** To asses the objective, we have summarized currently available scientific data, collected from Pubmed database and websites of World Health Organisation, Center for Disease Control and Prevention, National Aeronautics and Space Administration USA, European Council. **Results :** The latest data shows unprecedented changes in the global climate. Recent global temperatures, being the hottest in the past 2 000 years, have consequences on cryosphere level. Various types of microorganisms (viruses, bacteria, fungi), are released from the frozen environment, some of them may be unknown species, etiological agents of a disease considered eradicated, or known pathogens that gained extremely robust characteristics, adaptive changes for long-term survival in harsh environmental conditions. There have been many concerns about the 2016 anthrax epidemic in Siberia, Yaman Peninsula, in which dozens of cases of human infection and the death of a child have occurred, linked to thawing of permafrost and activation to ancient spores of Bacillus anthracis. More than that, DNA fragments of smallpox virus was found from ancient frozen biological samples. Global heating also has consequences for vector-borne diseases, which are changing their geographical distribution and reach areas where populations might be vulnerable. In this context, there is a constant risk of epidemics or even pandemics **Conclusions:** The consequences of global warming on international public health are still underestimated. In the context of unprecedented climate change, understanding the characteristics and potential of microbial life on cryosphere has become crucial. Multidisciplinary collaboration and one health approach are essential to monitor the phenomenon and reduce its impact.

Keywords: Global warming, cryosphere, human pathogens, epidemics

RISK FACTORS ASSOCIATED WITH ADENOMYOSIS AND LEIOMYOMATOSIS

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Background: Adenomyosis and leiomyomatosis impair the quality of life in women of reproductive age through their clinical manifestations such as abdominal pain, dysmenorrhea, menorrhagia, which often lead to a therapeutic indication of hysterectomy. Establishing the accurate diagnosis based on the imagistic explorations and the clinical symptoms can be challenging. **Objective:** The study aims to assess the involvement of multiple risk factors in the pathogenesis of the aforementioned benign uterine conditions. **Material and methods:** This study included women of fertile age who presented to the Mures County Obstetrics-Gynecology Clinic between 01.05.2019- □□□□□□□□□□□□ for chronic abdominal pain, dysmenorrhea, menorrhagia or dyspareunia. We compared the incidence of several risk factors between a control group, consisting of 46 females without any anomalies identified upon transvaginal ultrasound and two study groups (with a histological diagnosis): one of 26 females with adenomyosis and one of 68 women with leiomyoma. **Results :** There have been no statistically significant associations between overweight, obesity or births through cesarean sections and the occurrence of adenomyosis or leiomyoma. Women with a history of curettage have a higher chance of developing leiomyomatosis (OR=2,29, p=0,049). Oral contraceptives have a protective effect on the diseases outcome (for adenomyosis: OR=0,19, p=0,003; for leiomyomatosis: OR=0,18, p=0,0001). **Conclusions:** A complete medical history of the patient can offer information regarding risk factors which might be involved in the pathogenesis of different benign uterine disorders. Given the small number of participants in this study, further research is needed in order to establish how

adenomyosis and leiomyomatosis could be prevented, by avoiding exposure to the risk factors.

Keywords: adenomyosis, leiomyomatosis, risk factors

MASK IN THE PANDEMIC: STATISTICAL EXERCISE HIGHLIGHTING THE ATTITUDE TOWARDS MASK WEARING AND NON-VERBAL COMMUNICATION

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Background: During the COVID-19 pandemic, we have been forced to adapt to a new lifestyle, governed by strict rules and principles, to protect ourselves and others from SARS-COV2 infection. During this period, the mask was one of the ways we tried to prevent the spread of the virus. The mask has also become an indispensable "accessory" on the faces of millions of people. This is a questionnaire-based statistical study, which aims to provide an overview of the emotions that military students associated with wearing the mask. **Objective:** During the pandemic, the mask has become part of our daily outfit. We have learned how to wear it correctly, how to match it or customize it. We adapted it to our need to express ourselves, to communicate a clear message to our interlocutor, even if our non-verbal communication was suppressed. We wore it to frontline training and military ceremonies. This study is intended to highlight how military students adapted to all these changes, whether they had a responsible attitude towards wearing the mask, whether they were informed by reliable sources. It also wants to find out how they perceived the wearing of the mask during military training and military ceremonies, what physical discomfort it brought them and how it affected their relationship with others. **Material and methods:** For our investigation, the following psychological methods were used: conversation, explanation, and questionnaire. **Results :** The results are encouraging, most of the military students had a responsible attitude towards wearing the mask. Thus, 97.1% of those surveyed said that they always wore masks in public places or when the situation required it. At the same time, they were informed by reliable sources and were not influenced by negative opinions in the public space. The results show that the majority changed a mask worn at regular intervals and that respondents (67.3%) felt that wearing a mask protected them from infection. Most of the military students (81.7%) say that they never imagined that they would have to wear a mask in public spaces. Although they complied with the rules imposed during the pandemic, military students say that wearing the mask was uncomfortable, caused skin irritation or acne and limited their communication with others. **Conclusions:** The military students were responsible during the pandemic wearing the appropriate mask. At the same time, this safety measure brought with it physical discomfort and was a barrier to non-verbal communication, as respondents failed to make themselves understood by others.

Keywords: mask, student, non-verbal communication, attitude

THE MILITARY DOCTOR AND HIS ROLE IN WAR-WOUND MANAGEMENT

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Background: The medical support in times of peace in military or civil hospitals has just only a small resemblance with what an intervention means in a Role 2 or Role 3 field hospital. While in a basic hospital patients present themselves at the emergency room and they are placed in a specially equipped section, having all the facilities, on the battlefield things are not the same. The conditions which the victim and the doctor face are completely different. The multiple wounds of the scared victim, traumatic amputations, blast wounds, head injuries and fractured bones, infections, limited resources and hostile locations are just a few examples which illustrate what a military doctor has to face during war. The victims are transported to one of the military units of care classified as Role 1,2 or 3 depending on the seriousness of injuries. **Objective:** This paper aims to highlight the ability of military doctors to provide healthcare in the most difficult and stressful situations, while maximizing the probability of success of the mission for the unit. **Material and methods:** We gathered information about the conditions and the ways in which the medical procedures are performed, from "Fundamentals of military medicine", "War surgery" and media. **Results :** The military doctor has to be mentally and physically prepared to always perform at the highest level. Interventions on different fractures or gunshot wounds form the basics in a campaign hospital. **Conclusions:**

As a conclusion, the wounds suffered in war are completely different compared to the ones seen on a daily basis. They may be lethal and patients may need surgery immediately. Military doctors are under a great deal of stress, because in most cases the ABCD approach isn't used during a war.

Keywords: military doctor, surgery, healthcare, war

FUTURE TRENDS IN BIOLOGICAL ENGINEERING

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Background: The complexity of the human body and the special importance of the accuracy of the diagnosis and treatment methods required the intervention of technological disciplines and artificial intelligence in the medical field. Management and interpretation of large databases in order to obtain an individualized diagnosis, visualization of organs during surgery, assessment of the impact of medication in real time, modeling and simulation of natural biological processes using prosthetic components are just some of the interdisciplinary means of support and improvement of the medical intervention. **Objective:** The article aims to identify the most modern development trends in biological engineering and the impact of artificial intelligence in this field. The second objective of the paper is to identify new ways to use biological engineers and artificial intelligence in medical diagnosis and treatment. **Material and methods:** Starting from the European Union's "AI Watch" report and consulting online sources articles from https://www.tedmed.com/, https://pubmed.ncbi.nlm.nih.gov/, https://doaj.org/, https://scholar.google.com/ from the last 5 years we documented the main current and future uses of biological engineering and AI as well as some ethical and legal issues involved in its use. The medical field is based on many related sciences and is characterized by a large amount of information, which must be processed and analyzed as accurately as possible. **Results :** Minimally invasive robotic surgery, organ printing, and diagnostic predictions based on database management are high-impact areas. Therefore, it is necessary to review the impact of technology in medicine and identify new opportunities to improve medical services through the use of biological engineering and artificial intelligence. **Conclusions:** In conclusion, it is necessary to review the impact of technology in medicine and identify new possibilities for improving medical services through the use of biological engineering and artificial intelligence.

Keywords: Biological engineering, robotic surgery, prosthetic components, Artificial Intelligence

COMPUTER VISION SYNDROME AMONG NATIONAL SECURITY WORKERS

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Background: Computer-vision syndrome represents a group of extraocular symptoms, ocular surface-related symptoms or accommodation-related symptoms associated to the electronic devices use. These symptoms are temporary and there are methods to protect against this syndrome. **Objective:** The aim of this study is to emphasize the profile of people that are working in the national security domain that have experienced symptoms related to the syndrome, to show the most frequent symptoms and the most common preventive method. **Material and methods:** The present study is a descriptive one, based on the information obtained by completing and submitting an online questionnaire by the people who work in the national security system and use the electronic devices as a part of their job. All the respondents who have filled in the questionnaire, under the anonymity, and agreed to participate in the study were included. **Results :** There were 22 responders, 14 respondents were women an 8 males and their average age was 30 years. The majority of them are spending between 6 and 9 hours daily using electronic devices for job relating things. 64% of them require an optical correction, most of which are using eyeglasses. 21 out of the 22 people declared that in the past two years they have experienced at least one of the symptoms related to syndrome, the most frequently occurred symptom being vision loss or blurred vision (around 70%). Commonly, the symptoms occurred weekly. 50 % of the respondents do not know any preventive method while the other 50 % are using some; the most common method was the use of the specific filters on the eyeglasses followed by the adjustment of the light coming from the electronic device. **Conclusions:** Computer-vision syndrome is and will remain a public health issue, not because of its severity but because of its potential to affect the quality of professional performance leading to a decrease in the quality of life

of people experiencing symptoms in the spectrum of this syndrome.

Keywords: Computer-vision syndrome, Electronic devices, Ocular symptoms

MILITARY

DRONES, POSSIBLE GAME-CHANGERS IN WAR

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Background: The basis of what is known today as a drone were put at the end of the 18th century. Over the years, they evolved impressively to the point where they can serve varied purposes that directly lead to a decrease in loss of human resources of an armed force. The entertainment and artistical use by the civilians is just the tip of the potential of the device. **Objective:** Our review targets the development and uses of the unmanned aircrafts(UA) by the army and also the unveiling of what is envisioned as possible by their means. We also want to discover the things that still need to be improved in order for their full action capabilities to be achieved. **Material and methods:** We used NATO documents from the 60's , that were classified at the time, and also articles from military journals. For narrowing the results found, we filtered them by years and chose only the ones that held information about tests and operations that where eloquent for underling the full capacity of the UAs. **Results :** The first leap in the capability of drones, was when Israel developed UA's for surveillance and scouting. After this breakthrough, the concept of Predator Drone started to evolve. Both those uses offer great benefit in an armed conflict, but something that could revolutionize things even more is the possibility of delivering payload. The difference that blood supply or constant food supply on the battlefield would make on the course of events is enormous. In contrast to the capacities that they already hold, we found that there is still improvement that needs to be done in the area of latency in receiving the commands and the autonomy. **Conclusions:** Even though we are certain of the great benefit and change that they "put on table", there is still one big challenge in order for their impact to be game changing in war, and that is their interoperability within NATO joint operations. Also, the interaction between their action and different natural events and locations is still under research.

Keywords: drones, unmanned aerial vehicles, surveillance, interoperability

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THE INFLUENCE OF WAR REGARDING DRUG ABUSE AMONG THE ARMED FORCES

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Background: Along the history, intoxicants were an important part of existence. The wars were certainly no exception in applying this concept. That resulted in regularizing drug abuse in military service, with or without an informed consent of the soldier. In the past, the reasons of stimulants use varied from medical purposes to performance enhancers and even towards consolidating bonds between the companions. **Objective:** Our goal is to synthesize the manner in which drugs were used in wars among the military. We want to analyze the repercussions on short and long term after repetitive substances administration. **Material and methods:** For current research we used 11 studies of international literature. We analyzed multifocal points of expertise and treated following topic from toxicology to history, without neglecting the perspective of military strategies. **Results :** After this research we can strongly affirm the correlations between numerous warfare victories and illicit substance use. Exemplifying: soldiers of The First Great War received from home wives "useful presents for friends at the front" which consisted in packages of cocaine and heroin; amphetamines boosted the confidence of the belligerents during the WWII. The American Civil War resulted in 400.000 morphine addicts returned home from battlefield with the "soldier's disease". **Conclusions:** Deployment increased smoking, drinking and drug abuse which drove to a variety of risky behaviors with a large range of consequences that continue to impact wide communities and countries. We have to mention that there is an ascending rate regarding the military suicide, so that in the late years it even surpassed the prevalence of general public. Studies demonstrate that the phenomenon is strongly related to addictive substances abuse.

Keywords: war,, toxicology,, military strategies ,, drugs

FIVE OPERATIONAL LESSONS LEARNED ÎN BATTLE OF MOSUL

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Background: The liberation operation of Mosul from the Islamic State can be an urban area model for large-scale combat operations. Thje future combat operations will be foreshadowed by five operational lessons which we must be aware of in terms of urban warfare. **Objective:** This stydy sparked from the interest in combat actions during urban warfares. I wanted to see and show off the mistakes so the next generations can avoid them. **Material and methods:** In order to outline this study, I used in investigation the following materials: conversations, explanations and reviews of the battle of Mosul. **Results :** If we were to talk about these lessons, the Battle of Mosul reveals these lessons which play a very important role in the operational future approach of the following urban struggles. **Conclusions:** After numerous reviews over the years made by greatest military analysts, they came up with these five operational lessons learned in that battle: a modern city cannot be isolated, the depth and time are factors directly proportionate to the difficulty, the initiative is lost once the attackers enters the city, in agglomerated environments, strength and sustainability are increased and the supportive native population can ruin your attack.

Keywords: urban, liberation, islamic, lessons

THE MILITARY UNIFORM, BETWEEN PASSION AND RESPONSABILITY

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Background: The study is based on the psychosocial exercise that involves and emphasizes the emotions that military students associate with the military uniform, determining a certain attitude and behavior. **Objective:** The most important aspect represents the overview of how dreams, discipline and responsibility are embodied in the image of the student proudly wearing the military uniform. **Material and methods:** Psychological methods were used for our investigation: conversation, explanation, and questionnaire. **Results :** The interpretation of the data obtained highlights that the desire for military uniform, responsibility and discipline is created since childhood for most military students. At the same time, the uniform represents proof of one's hard work and the fulfilment of dreams, joy, honour and inspiration. **Conclusions:** The study shows that the military uniform places the military student between passion and responsibility, representing the concretization of the desire to serve the homeland with honor starting from respect, discipline and dedication.

Keywords: military, uniform, emotions, responsability

FUNDAMENTAL SCIENCES - PHARMACY

SYNTHESIS OF A CHOLINE-LIKE DERIVATIVE AS A POTENTIAL C-REACTIVE PROTEIN INHIBITOR

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Background: Approximately 50% of people that suffer an ischemic injury develop dementia within one year of the primary event. Dementia has been correlated with an inflammatory response mediated by monomeric C-reactive protein, which could be abrogated by inhibiting the protein's pentameric structure dissociating. **Objective:** The study aimed to synthesise a choline-like derivative with two β-amino acid units linked by a carbon-based chain. This compound could inhibit the dissociation of the pentameric C-reactive protein. **Material and methods:** Starting from commercially available amino acids with two amine groups, we have managed to decarboxylate and link the diamino-moiety with acrylic acid through an Aza-Michael addition reaction, followed by the methylation of the amino groups with DMSO and formic acid. The impure product was later subjected to MS Analysis to validate the desired compound's structure. **Results :** Following protocols modified from the literature, we decarboxylated the amino acid using different solvents at high temperatures, with N,N-dimethyl-benzaldehyde as organo-catalyst. Although alcohols are considered the ideal solvent for the reaction, we have found success using DMSO as a solvent throughout our attempts. We obtained the desired product through the Aza-Michael addition reaction. Methylation of the amino groups with DMSO/formic acid, which was later identified through MS, exhibited an ionized molecular peak at 275 [M+1]. **Conclusions:** We have managed to synthesize a moderate overall yield and characterize the choline-like derivative. A series of compounds with different chains will be synthesized in the future, following the developed synthetic pathway. All the compounds will be characterized by spectroscopy (MS and NMR).

Keywords: C-reactive protein, choline-like inhibitors, aza-Michael reaction, dementia

PHARMACEUTICAL SCIENCES - PHARMACY

SHAPING NEW GLUTAMIC ACID DERIVATIVES WITH ANTICANCER POTENTIAL BY COMPUTATIONAL METHODS

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Background: Glutamic acid (GLA) is one of the most abundant amino acids found in nature. Besides its essential part in human metabolism, GLA is considered to have a critical role in tumour cell development. Currently, the link between tumour growth and the relationship of GLA with glutamine (GLN) is known. In this regard, some GLA derivatives such as thalidomide, azaserine, acivicin or conjugates of poly(*L*-glutamic) acid have been used in anticancer therapy to interfere with this metabolic pathway of GLA. **Objective:** This paper aims to identify new structural derivatives of GLA as potential candidates for cancer therapy, using *in silico* methods. Furthermore, we focus on developing new complexes of GLA and natural molecules with antineoplastic activity. The targeted outcome is an improved toxicity profile and efficacy of anticancer activity. **Material and methods:** A compound library containing 123 GLA derivatives was created and analysed using computational methods. The chemical structures were drawn using BIOVIADraw, and the physicochemical, pharmacokinetic, pharmacological and toxicologic properties were predicted using open-access programs and software including MarvinSketch, AquaSol, Chemicalize, Toxtree, OSIRIS Property-Explorer, DruLiTo, SMARTCyp, Molinspiration, SwissADME, SwissTargetPrediction, CLC-Pred, GUSAR, SOMP, and PASSonline. Also, molecular docking and molecular dynamics simulation studies using SwissDock, AutoDock Vina, UCSF Chimera, PatchDock and SwissSimilarity were conducted. **Results :** Nine lead compounds with low toxicity profiles were identified as potential biologically active substances. The selected molecules showed cytotoxic effects against breast adenocarcinoma, lung and colon cell lines, and T cells in acute leukaemia. The molecular docking studies used glutamine synthetase as a target. The most probable binding site for the most active compound as ligand could be on the D subunit, cluster 1 having low inhibitory constant and low free-energy and FullFitness values and high affinity for the enzyme. Conjugates of GLA with natural compounds showed high toxicity, mostly non-genotoxic carcinogenicity risk and negative effects on the reproductive system. **Conclusions:** *In silico* studies have proved that GLA analogues have a high potential to become innovative oncological treatment alternatives. However, a single GLA residue bound to the natural parent molecule cannot reduce the side effects or increase its biological activity. Therefore, further studies could be performed to obtain more favourable results, combining our lead compounds with poly(*L*-glutamic) acid. Also, additional research and lead compound optimisation are necessary.

Keywords: glutamic acid, anticancer effect, computational methods, molecular docking

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THE PHYTOCHEMICAL EVALUATION OF SEVEN BLACKCURRANT VARIETIES

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Background: Fruits of Ribes nigrum, also known as blackcurrants are edible berries, very rich in vitamin C, and polyphenolic compounds. Due to their phytochemical profile, the fruits are considered to be natural sources of potent antioxidants. **Objective:** This study aims to determine the concentration of anthocyanins, total polyphenols, and the antioxidant capacity of seven varieties of blackcurrants. **Material and methods:** Alcoholic extracts were prepared from seven Ribes nigrum varieties (Ceres, Gofert, Ronix, Ruben, Tiben, Tisel, and Titania). Total polyphenolic content and total anthocyanin content were determined by spectrophotometric methods. The radical scavenging activity was measured by the DPPH (2,2-diphenyl-1-picrylhydrazyl) and ABTS (2,2-azino-bis(3ethylbenzothiazoline-6-sulphonic acid) assays and the results were correlated with the chemical composition. **Results :** The richest variety in anthocyanins was Ruben with a concentration of 0,15 g anthocyanins/100g FW (fresh weight); at the opposite pole was Titania with an average of 0,07g/100g FW. The highest concentration of total polyphenolic compounds was determined in the Tisel variety. All tested extracts possess strong antioxidant capacity, but the chemical composition could not be correlated with the antioxidant activity for all samples. **Conclusions:** The results demonstrate that all analyzed samples had high concentration of polyphenols and anthocyanins which confer remarkable antioxidant effects.

Keywords: Blackcurrant, Antioxidant, Polyphenols, Anthocyanins

THE INFLUENCE OF ALTITUDE ON THE PHYTOCHEMICAL PROFILE OF BILBERRY LEAVES

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Background: The scientific data reunited and collected over the years have proved that the group's representatives of phenolic compounds (such as phenolic acids, flavonoids, and tannins) are predominantly present in bilberry leaves and fruits. The interest in these phytochemical substances has grown in the last years, especially because of their antioxidant properties. The antioxidant substances are necessary for both prophylactic and curative purposes against the action of unstable free radicals, triggering in the human body various pathologies, such as cancer and cardiovascular diseases. Moreover, the antioxidant properties of the phenolic compounds that are found in herbal products are relevant in different domains such as the alimentary, nutraceutical, and pharmaceutical industries. **Objective:** The aim of the present study is to evaluate the influence of altitude on the chemical composition and *in vitro* biological effects of the Bilberry leaves (*Vaccinium myrtillus*). **Material and methods:** Bilberry leaves were collected from different altitudes (1544, 1667, 1754, 1854, and 2020 m) from the Călimani mountains, Harghita county, Romania. Total polyphenols, tannins, and flavonoid content were determined using spectrophotometric methods. The antioxidant capacity was assessed by both DPPH (2,2-diphenyl-1-picryl-hydrazyl-hydrate) and ABTS (2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) methods. **Results :** The highest concentration of total polyphenols and tannins was determined for the samples collected from 1667 m and 1854 m, while the lowest concentration was recorded for the sample collected at 2020 m. The highest concentration of flavonoids was recorded for the samples collected at 1667 m. The antioxidant activity is correlated with the concentration of polyphenolic compounds. **Conclusions:** Our results demonstrate the importance of altitude over the phytochemical profile of bilberry leaves and suggest that the highest concentration of the main compounds is at an intermediate altitude.

Keywords: altitude, bilberry, leaves, phytochemistry

DEVELOPMENT AND PHARMACOTECHNICAL EVALUATION OF DROTAVERINE ORODISPERSIBLE TABLETS

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Background: Orodispersible tablets (ODTs) represent pharmaceutical preparations designed to achieve a fast therapeutic effect. Their great advantage consists of quick disintegration in the mouth, so there is no need for water intake. ODTs are usually recommended for pediatric and geriatric patients. **Objective:** The main objective of this study consists of incorporating the active pharmaceutical ingredient (API) into a new pharmaceutical form (orodispersible tablets) improving patient compliance. **Material and methods:** The API was included in a granular mixture obtained by wet granulation. The orodispersible tablets were obtained by the compression of the mixture using an eccentric tableting machine equipped with 12 mm diameter punches. To develop DROT-ODTs, two types of superdisintegrant excipients (water-soluble soy polysaccharides-SSP, respectively water-insoluble soy polysaccharides-Emcosoy®) were used in different concentrations (1%, 1,89%, 3%, 5%), resulting in 6 formulations (D1-D6). For the pharmacotechnical and analytical evaluation of the tablets, the following parameters were verified: crushing strength, friability, disintegration time, wetting time, drotaverine dissolution at 1, 3, 5, 10, 20, and 30 minutes, and the assay of the API. The results of the quality tests were verified considering the in-force Romanian Pharmacopoeia 10th edition (FRX), European Pharmacopoeia (Ph. Eur. 10), and the United States Pharmacopoeia (USP 44) requirements. **Results :** All the orodispersible tablets obtained respect the quality requirements in terms of friability (less than 1%), crushing strength (52 N for D2-5% Emcosoy® and 125.5 N for D3-1% SSP), and disintegration time (<180 seconds); three formulations (D2, D4, D5) fulfilling the stringent USP44 requirements by disintegrating in less than 30 seconds. The wetting time provides information on the disintegration properties of the tablets. Basically, a lower wetting time conducts to a faster disintegration, with results ranging from 17.66 seconds for D5 to 49 seconds for D6. The *in vitro* release of drotaverine from ODTs showed that all formulations presented amounts of active substance released greater than 85% at 10 minutes. **Conclusions:** The main objective of developing 30 mg DROT-ODTs was successfully achieved. The ODTs comply with the

requirements of the in-force pharmacopeias concerning the parameters analyzed and since the effect is quickly installed, they represent a fast drug therapy intervention that could be successfully used for pediatric and geriatric patients.

Keywords: orodispersible tablets, drotaverine, superdisintegrant, fast therapeutic effect

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THE EFFECTS OF MOMORDICA CHARANTIA ON METABOLIC SYNDROME – A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED, CONTROLLED TRIALS

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Background: *Momordica charantia* L. (Cucurbitaceae) or bitter melon is a vegetable traditionally grown in tropical or subtropical countries and it is used as an alternative treatment for type 2 diabetes. Recently a lot of trials were conducted to assess its hypoglycemic effect. In addition, there were studies and clinical trials to suggest potential blood pressure lowering, hypolipidemic effect, which suggests the potential use of bitter melon in metabolic syndrome (MetS), also known as syndrome X. MetS is defined as a cluster of risks factors such as obesity, insulin resistance, high blood pressure, elevated serum triglyceride level. **Objective:** This study aimed to systematically evaluate the potential efficacy of the bitter gourd in the treatment of the metabolic syndrome. **Material and methods:** Embase, Cochrane, Pubmed databases were searched without language or year restriction. Two authors independently extracted the data. Cohen's kappa is used to assess the level of agreement. The meta-analysis was reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement, using the PICO (patients, intervention, comparison, outcome) format, and it was registered in the International Prospective Register of Systematic Reviews. We included human, randomized placebo-controlled trials. The primary outcomes of the review are body weight, BMI, fasting blood glucose, glycosylated hemoglobin A1c (HbA1c), systolic blood pressure, diastolic blood pressure, serum triglyceride, HDL, LDL, VLDL, and total cholesterol levels. **Results :** Seven studies were included in the meta-analysis with 337 patients in total and 4-16 weeks of follow-up. Meta-analysis could be performed for the effect on BMI, body weight, fasting glucose level, HDL level, and diastolic blood pressure. No significant effect could be observed for bitter gourd treatment in any of these outcomes in comparison to placebo. In the analysed trials no serious adverse effects were reported. Moreover, *Momordica* treatment was not associated with significant change in ALT, AST and creatinine levels compared to placebo, which also supports the safety of this plant. **Conclusions:** Although bitter melon has been widely used by patients suffering with MetS, the meta-analyses of randomized, placebo-controlled trials do not confirm the rationale of this practice.

Keywords: Momordica charantia, metabolic syndrome, insulin resistance, obesity

POSTER - SURGICAL

ATYPICAL ULTRASOUND APPEARANCE OF AN OVARIAN ENDOMETRIOMA- A CASE REPORT

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Introduction: Adenomyosis and ovarian endometrioma are common gynecological disorders that can impair the reproductive years of women's life. Both are defined by the presence of endometrial tissue in an ectopic location that is at distance from the endometrium. In adenomyosis the endometrial tissue invades the uterine myometrium while endometriomas are a common manifestation of endometriosis on the ovary. Transvaginal ultrasonography is an effective tool to detect these lesions, but the gold standard for the diagnosis of endometriosis is laparoscopy followed by histopathological examination. **Case Report:** A 46-year-old woman with no significant medical history was admitted in Mureș County Obstetrics & Gynecology Clinic for irregular periods. Transvaginal ultrasound examination revealed a globular shaped uterus with an inhomogeneous myometrial texture. At the level of right adnexa was seen a 91 x 70 mm unilocular cyst with ground-glass echogenicity inside and, another heterogeneously appearing unilocular cyst with a singular papillary projection without color Doppler sign. Laboratory results were unremarkable except for slight elevated level of CA-125 (38.6 U/mL). A total hysterectomy with bilateral adnexectomy was performed and the removed organs were sent for pathological analyses. When one of the cystic mass was opened, chocolate-colored fluid, characteristic for endometriomas was visible. **Discussions :** We have chosen to present this case to emphasize the importance of ultrasonography in the identification of these pathologies. Ultrasonography can also help in making differential diagnosis between benign and malignant tumors of the ovaries. Ground-glass content on US is typical for endometriosis-related tumors. **Conclusions:** The right diagnosis cannot be attained by imaging modalities alone, since the differential diagnosis includes in most cases malignant diseases. The use of color Doppler to inspect for absence or presence of flow inside of papillary projections is mandatory in classifying the lesions as benign or malign.

Keywords: adenomyosis, endometrioma, ultrasonography

ACETABULAR RECONSTRUCTION AND TOTAL HIP ARTHROPLASTY ON A PATIENT WITH POST-TRAUMATIC OSTEOARTHRITIS : A CASE REPORT

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Introduction: Post-traumatic osteoarthritis (PTOA) may occur after any type of fracture, affecting joint function and causing significant musculoskeletal symptoms, such as pain, instability and loss of mobility. There is a latency period that can range from 5-6 months to 1-2 years from the time of the injury to developing symptoms of osteoarthritis. **Case Report:** The purpose of this report is to present a rare case of surgical management regarding left posttraumatic hip osteoarthritis developed one year after a car accident that led to superior acetabular fracture , postero-superior femoral luxation and femoral head fracture. Our Study Case presents a 61-year-old male patient admitted in the Orthopedic and Traumatology Department who had a clinical picture dominated by severe pain in the left hip and moderate functional impotence. After X-ray evaluation, the final diagnosis was osteoarthritis in the left hip with Paprosky 3A acetabular bone loss, imposing surgical treatment consisting of a cemented total hip arthroplasty (THA) with acetabular reconstruction. Paprosky 3A defects have moderate-to-sever destruction of the acetabular walls with high damage of supporting structures and more than 2 cm of hip center migration. During surgery, significant bone loss and fragility of the superior acetabular wall were depicted and the medical team opted for an acetabular reconstruction with bone graft and Kerboull-type support ring alongside cemented total hip arthroplasty. **Discussions :** The necessity of using a bone graft resided in placing the cup of the prosthesis at the correct anatomical level in order to decrease the risk of impingement and dislocation of the hip prosthesis. Moreover, the Kerboull-type ring with three cortical screws provided mechanical support and restored the center of rotation at the hip. **Conclusions:** Compared with THA for primary osteoarthritis, the surgical management of posttraumatic osteoarthritis represents a real challenge due to the high level of bone fragility and the need to attach the prosthesis in order to withstand on the long-term.

Keywords: Osteoarthritis, Kerboull-ring, Arthroplasty

CASE REPORT: SURGICAL MANAGEMENT OF PLEOMORPHIC LIPOSARCOMA

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Introduction: Pleomorphic liposarcomas are defined by a high malignancy mixture of lipoblasts with high-grade pleomorphic spindle cells. Clinical data regarding pleomorphic liposarcomas suggests that its percentage represents about 5-10% of all liposarcomas. It is commonly located intramuscularly or in other deep sites and at the subcutaneous tissue level on rare occasions. **Case Report:** Our paper aims to present the case of a 56 years old female patient, known with a record of previously excised retroperitoneal sarcoma (pleomorphic subtype) with a positive computer tomography of tumor relapse. The abdominal computed tomography revealed a tumoral mass measuring 42/34 mm, located at the lumbar L4-L5 spine with local adenopathy at the mesenteric root. The surgical procedure performed was a monobloc tumor resection with small bowel jejunal segmental excision and regional lymphadenectomy. **Discussions :** The patient's postoperative status faced no complications, being discharged after six days of hospitalisation. The histopathological examination revealed an undifferentiated pleomorphic sarcoma with tumor cells expressing CD34 diffusely. In addition, the immunoreactivity to DOG1 and CD117 was negative. **Conclusions:** Pleomorphic liposarcoma is a rare and high-grade malignancy carcinoma. It has a high recurrence rate and poor prognosis. The diagnosis is dependent on the histopathological examination of tumor biopsies. Standard treatment remains controversial, with surgical treatment as the first option with a low response rate to chemo- and radiotherapy.

Keywords: #pleomorphic, #liposarcoma, #lymphadenectomy

SAPHENOUS VEIN GRAFT ANEURYSM – A LONG TERM ISSUE OF CARDIAC BYPASS PROCEDURE – A CASE REPORT

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Introduction: Classically, aneurysms are described as localised dilatations of which diameter exceeds the normal size diameter with about 50%. Literature defines the native coronary arteries aneurysms as being irreversible dilatations of the blood vessel lumen that exceed the diameter of the adjacent normal segment by more than 1.5 fold. A rare complication of aortic-coronary bypass is represented by saphenous vein graft aneurysm, which typically occurs somewhere between 10-20 years after the surgical procedure. Saphenous vein graft aneurysm is defined as a permanent localised dilatation, which exceeds 3 cm. Even though patients may remain asymptomatic, studies report a lifetime incidence of 0.07%. **Case Report:** The aim of this paper is to present the case of a 72 years old, male patient, with a history of aortic-coronary venous bypass procedure, who came to the department of cardiac surgery with an aneurysm under evolution of the chronically occluded saphenous vein graft. Upon presentation, the patient's clinical features included:pectoral angina CCS II, dyspnea NYHA II-III, with on and off dizziness without syncope. Regarding the patient's cardiovascular risks, it is important to mention: high blood pressure hypercholesterolemia, positive family anamnesis and smoking, which was discontinued after the cardiac bypass procedure, approximately twenty-four years ago. Based on the heart computed tomography findings, namely an 8 cm left hearted mass, localised in the upper side of the left ventricle, truncus pulmonalis/left pulmonary artery determining the translocation of the anatomic structures to medial, the diagnose of the in-evolution aneurysm of the chronically occluded saphenous vein graft (V-Jump-RCX-PLA) was given and the need for surgical procedure was in heart team established. In accordance to the diagnosis, aneurysm of chronically occluded saphenous vein graft, the patient underwent a re-operation surgical procedure, which aimed the resection of the saphenous vein graft aneurysm, evolving lateral from the pulmonary artery to the link atrium. **Discussions :** The operation was carried out in off pump technique. The course of the open Lima-Riva bypass was reconstructed in 3D on the CT. The postoperative status of the patient faced no complications, returning to the cardiovascular department after one day in the ICU. **Conclusions:** Although aneurysms which develop as a complication of a cardiac bypass procedure are very rare, close attention and follow-up of those patients who underwent cardiac bypass procedure, is necessary to be done, owing to the fact that this complication can mimic the symptoms of other cardiac diseases, which the patient can concomitantly suffer from.

Keywords: #aneurysm, #bypassprocedure, #coronary-arteries, #cardiovascular-risk

INTRACRANIAL PIAL ARTERIOVENOUS FISTULA SUPPLIED BY DISTAL BRANCHES OF THE RIGHT MIDDLE CEREBRAL ARTERY, WITH CORTICAL VENOUS DRAINAGE CAUSING INTRAPARENCHYMAL HEMORRHAGE: A CASE REPORT

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Introduction: Intracranial pial arteriovenous fistulae (pAVF) are rare vascular malformations derived from a singular or multiple pial arterial sources draining into a cortical vein. It is reckoned that pAVFs represent 1,6% of all intracranial vascular malformations. pAVFs confer a broad spectrum of symptoms such as headache, seizures, intracranial haemorrhage and neurological deficits. endovascular treatment is the most commonly preferred, however the microsurgical approach has to be taken into consideration if the pAVF were to be complicated by aneurysms or variceal dilatations. They associate a high mortality risk of 63% caused mainly by intraparenchymal hemorrhage. **Case Report:** A 49 years old female patient was admitted with symptoms of diminished sensitivity of the left side of the body. A cerebral angiography was performed and a pAVF, supplied by branches of the right middle cerebral artery, was identified. Drainage was through a superficial parietal vein into the superior sagittal sinus. A brain MRI depicted a parietal lobe hematoma with the maximum diameter of 5 centimeters with associated perilesional edema and mass effect. Based on the location and size of the lesion, a decision was made to treat the lesion in a transarterial manner. Under general anesthesia the right common femoral artery was punctured and a 6F sheath was placed by Seldinger technique. After selective catheterisation of the internal carotid artery with a 6F guiding catheter, superselective incannulation of the parietal branches from the ipsilateral MCA was obtained with a 1.2 F microcatheter and a 0,007 inch guidewire. A mixture of 1 milliliter N-butylcyanoacrylate with 2 milliliters ethiodized oil was injected until complete obliteration of the fistula was achieved. **Discussions :** The treatment options of pAVF are neurosurgical resection and endovascular obliteration. In the last decade, embolisation through transarterial approach has become the main therapeutical procedure due to its minimally invasive character. The diagnostic process of pAVF is particularly difficult, as even dilated, distal, pial arteries are more difficult to detect on CT or MRI than hematomas. Therefore, dilated vessels seen around or inside an intracerebral hematoma should raise concern. Catheter angiography is the gold-standard examination that can confirm the diagnosis. **Conclusions:** Pial arteriovenous fistulae are uncommon pathological entities. They manifest through intraparenchymal hematomas, which should raise suspicion of intracranial arteriovenous shunts, especially in young adults under the age of 50. The gold standard diagnostic test of pAVF is catheter angiography. Endovascular treatment has a high obliteration rate with a low number of complications.

Keywords: pial arteriovenous fistula, intracranial hemorrhage, intraparenchymal hematoma, cerebral angiography

RECTAL CANCER SURGERY WITH NO PROTECTIVE ILEOSTOMY – COULD IT BE DONE MORE FREQUENTLY?

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Introduction: Colorectal cancer is one of the most common malignancies affecting people over 50. It has a varying incidence worldwide, meeting higher rates in developed countries. A common surgical procedure for this pathology is anterior rectal resection with colorectal anastomosis, accompanied by protective ileostomy, which is required to avoid anastomotic leakage and improve tissue healing. However, the ileostomy does not improve hospital stay, wound infection and reoperation. **Case Report:** A 60-years-old male patient, known with type 2 diabetes mellitus, requiring insulin, presents to the general surgery department with superior rectal adenocarcinoma. The patient underwent neoadjuvant chemotherapy, without tumor volume reduction. On examination, the patient was stable, afebrile, able to pass gas, with König's syndrome and spontaneous physiological micturition. The colonoscopy found a circumferential tumor, located up to 12-13 cm from the anal margin, which couldn't be passed by the endoscope. The biopsy and histopathology indicated rectal adenocarcinoma NOS (G2). The CT scan with i.v. contrast highlighted a parietal thickening of the rectum, extended up to 41 mm, with stenosis and no extra-luminal expansion. An ultrasonography of the liver showed four

cystic lesions as follows: two in the V and VII segments and two in the left lobe. A PET/CT scan showed high uptake of FDG only in one lesion in liver segment II. The MRI concluded it was improbable to be metastatic. The final staging was T3N2M0. Besides hyperglycemia and slightly reduced sideremia, the patient presented no other abnormal laboratory findings prior to surgery. The patient was suitable for laparoscopic anterior rectal resection with T-T colorectal mechanical anastomosis. The patient's postoperative evolution was favorable under antalgics, NSAIDs, antibiotics and hydro-electrolytic rebalancing. On discharge, he was stable, afebrile, able to pass gas and feces, spontaneous physiological diuresis, and the surgical wound in the process of healing **Discussions :** This is a case of a patient who did not undergo protective ileostomy in order to raise his quality of life. Surgeons may consider avoiding ileostomy in patients who may clinically recover faster, therefore an assessment regarding the patients' capacity to cope with (co)morbidities may opt out some additional surgical procedures. **Conclusions:** Protective ileostomy seems to not be required for every surgical procedure regarding the colon and the rectum, provided that the patient is stable. In such conditions, avoiding such procedure could be accompanied by normal recovery of the patients, further improving their QOL.

Keywords: protective ileostomy, QOL, rectal cancer, König's syndrome

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ENDOVASCULAR MANAGEMENT OF A DURAL ARTERIOVENOUS FISTULA: A CASE REPORT

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Introduction: Dural arteriovenous fistulas (dAVFs) are abnormal anastomoses between meningeal arteries and dural venous sinuses and/or cortical veins. These pathological connections can appear either intracranially or spinally. Most dAVFs tend to develop de novo, but infection (mastoiditis), previous craniotomy, tumours, traumatic brain injury and dural venous sinus thrombosis are also among the causes. **Case Report:** A 76-year old male patient was admitted to the neurology ward accusing dizziness. Sensory-motor deficits were also noticeable. Cerebral angiography/digital subtraction angiography (DSA) was performed revealing a dAVF Cognard V with arterial supply from the tentorial branch of the superior cerebellar artery and venous drainage through a vermian vein, linking an 8 millimeters in diameter ectasia of the spinal venous system. For this reason, the decision to undergo arteriovenous embolization was made. The patient underwent general anesthesia. A 6F guiding catheter (Chaperon, Terumo 35) was placed through the right external carotid artery and internal maxilar artery followed by supraselective catheterisation of the middle meningeal artery and its petrosquamous branch with microcatheter Sonic 1.2F, reaching the branches that supply the fistula. Additionally, a 4F (VER) catheter was placed in the left vertebral artery under Terumo 35 guidance after which 0.5ml DMSO was injected through Sonic 1.2F microcatheter, followed by 1ml ethylene-vinyl alcohol copolymer (EVOH)-based liquid embolic agent (Squid 18) until complete obliteration of the AV fistula. **Discussions :** dAVF is an uncommon disease as its incidence rate is considered to be between 0.15 and 0.29 per 100000 persons per year. The Cognard grading system can be used to classify dAFVs, which is based on the direction of dural sinus drainage, the existence of cortical venous drainage, and the manner of venous outflow. The severity of the fistula and the severity of the symptoms increase as the grade rises. The diagnostic gold standard remains angiography and apart from diagnosis, it allows for an anatomical and hemodynamic evaluation of the fistula, which is essential for treatment planning. **Conclusions:** It is known that dAVFs are a rare type of cerebral vascular malformations which natural course is mostly governed by the venous drainage route. If the related symptoms are minor, simple fistulas can be handled conservatively. Aggressive lesions with cortical venous drainage, on the other hand, pose a considerable risk of neurological deterioration and should be treated promptly. The most common treatment for dAVFs is endovascular embolization, however a surgical approach may also be effective in some cases.

Keywords: dural arteriovenous fistulas, interventional radiology, endovascular intervention, embolization

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ACUTE APPENDICITIS RELATED TO MUCINOUS ADENOCARCINOMA:A CASE REPORT

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Introduction: One of the most prevalent abdominal crises is acute appendicitis. The cause is still unknown, and

little progress has been made in recent decades. The risk of appendicitis must be considered in any patient presenting with an acute abdomen, therefore obtaining a confident preoperative diagnosis remains a difficulty. Despite the fact that biomarkers and imaging are useful additions to history and examination, clinical assessment remains the mainstay of diagnosis due to its limitations. **Case Report:** We present the case of a 53-year-old patient who presents at the emergency room for evidence of abdominal CT examination due to nonspecific abdominal pain of an appendicular tumor that raises the suspicion of an appendicular mucocele. After adequate preoperative preparations, surgery was performed on AGIOT. Intraoperatively, when exploring the appendicular region, a dilated appendix is observed, along its entire length, with a diameter of up to 2 cm that bulges into the cecum in the form of a regular tumor formation of about 4 cm in diameter that does not invade the serous. The incision is prolonged, and it is decided to perform a right hemicolectomy. A mesocolon and mesentery with multiple infracentimetric adinopathy was also observed. **Discussions :** After receiving the histopathological examination, the following macroscopic and microscopic observations were made. Right hemicolectomy piece of terminal ileum with a length of 20 cm, cecum and ascending colon with a length of 13 cm, appendix with a length of 9 cm and dilated lumen, diameter between 1 and 2.5 cm. No mucous or purulent deposits on the serosa. The condensed mucin on the section is abundant. Microscopically, the appendix, which at the level of the mucosa shows mucinous epithelium with predominant flat proliferation and villous focal with low-grade and high-grade nuclear atypia. Paucicellular mucin abundant in the lumen with compression of the appendicular wall and the disappearance of glandular crypts. We examined 12 regional lymph nodes, that had between 2 and 10 mm in diameter that are free of the tumor. **Conclusions:** The postoperative evolution was favorable, the patient recovered in a short time and was discharged with the recommendation of an oncological consultation with the histopathological result and the return in 7 days postoperatively to remove the sutures.

Keywords: Hemicolectomy, Mucinous, Appendicitis

GRADE IV MACRONODULAR GOITER WITH EUTHYROIDISM

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Introduction: Nowdays, nodular goiter affects millions of people around the world. In recent years, there has been a worldwide debate on whether benign nodular goiter should be treated with total thyroidectomy or with a subtotal procedure. The major arguments are: first, no further surgery will be needed in case histological examination reveals an incidental microcarcinoma. Second, total thyroidectomy eliminates the risk of recurrent goiter and with it, the potential need for another intervention, which has a significantly higher rate of postoperative problems than the initial surgery. **Case Report:** We present a case of a 67-year-old male patient with long-standing, painless, palpable bilateral thyroid mass. He was clinically euthyroid and had a palpable, mobile left lobe (Grade 1). The most effective way of diagnosis was ultrasonography, that revealed grade IV macronodular goiter (LL>RL). LL was completely occupied by a heterogeneous macronodule, with areas of cystic degeneration, measuring 4 cm. The RL showed in the middle and lower 1/3, another macronodule, well delimited, with central macrocalcifications, dived into the upper mediastinum, measuring 3 cm. Her serum was T3 free, T4 free and TSH, PTH, antithyroid antibody (ATPO) and antithytoglobulin antibody (ATG) levels at normal range. Our patient underwent a total thyroidectomy with the identification and management of bilateral recurrent nerves. Evolution postoperative was favorable. The ORL consultation performed preoperatively and postoperatively revealed normal functions. **Discussions :** Among other reasons of total thyroidectomy in euthyroid patients with thyroid macronodule there are also included: compression of trachea and esophagus, significant growth of the nodule, neck discomfort and cosmetic concern. **Conclusions:** In conclusion, the ability to differentiate these nodules from metastatic adenopathies of differentiated thyroid carcinoma has substantial therapeutic and prognosis consequences, as well as the potential to save unnecessary surgery.

Keywords: TSH, PTH, Total Thyroidectomy, Euthyroidism

QUADRUPLE SYNCHRONOUS INTRA-ABDOMINAL TUMORS. A CASE REPORT OF MULTIPLE CANCER SYNDROME

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Introduction: In the metachronous situation of an early endometrial carcinoma, quadruple synchronous gastrointestinal de novo neoplasms are a very unusual clinical finding, with fewer than ten examples described in the English-speaking literature. The goal of this research was to identify an uncommon pathology and determine the optimal treatment plan for numerous synchronous gastrointestinal cancers. **Case Report:** We present the case of a 65-year-old woman who had a personal history of endometrial endometrioid carcinoma of the uterus (FIGO IB) and was treated with radical hysterectomy and bilateral pelvic lymphadenectomy followed by adjuvant chemoradiation. but developed four synchronous primary cancers after a 25-year disease-free interval, clinically revealed by right hydronephrosis and a rectovaginal fistula. She was diagnosed with sigmoid colon loop G2 adenocarcinoma, recto-sigmoid junction G2 tubular adenocarcinoma, and an upper rectum tubular adenoma with intramucosal adenocarcinoma; postoperatively, after an upper-gastrointestinal bleeding episode another intestinal type adenocarcinoma was revealed in the definitive diagnosis which was located on the lesser curvature. Gene profiling, microsatellite instability testing, and microarray analysis were performed, with final results awaiting. Unfortunately, the patient died on postoperative day 10 after an incident of ARDS. **Discussions :** The peculiarity of this case is the development of quadruple synchronous intra-abdominal tumors after aggressive therapy of an endometroid endometrial cancer over a 25-year period. If the patient hadn't developed urinary symptoms compounded by the recto-vaginal fistula, the associated multiple neoplasia syndrome would not have been discovered. **Conclusions:** To the best of our knowledge, this is one of the few cases of such a large tumor burden in which genetic and genomic testing could be beneficial to the families. Such measures will enable for the identification of persons who are at high risk for neoplasia and will aid in the prevention of such severe outcomes.

Keywords: synchronous neoplasia, multiple cancers, endometrial cancer, gastric cancer

PULMONARY HYPERTENSION ASSOCIATED WITH MITRAL VALVE DAMAGE- CASE REPORT

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Introduction: Mitral valve damage through stenosis or regurgitation it is a frequently met affection in the field of cardiovascular surgery having multiple etiologies. This affection is requiring a surgical treatment, but when it is associated with severe pulmonary hypertension and high pulmonary resistances the surgical approach become, according to the specialty guidelines, prohibited. **Case Report:** We choose to present the case of a 62 years old female pacient which is presenting to the Emergency Institute of Cardiovascular Disease and Transplat Targu Mures. She is accusing of dyspnea and fatigue at medium and low physical efforts, retrosternal pain with a constrictive character started on physical effort, but also at rest, lasting 5-10 minutes. The coronary angiography revealed no significant injuries. The echocardiography was suggestive for severe mitral stenosis caused by a rheumatic process, mitral insufficiency, tricuspidian insufficieny and severe pulmonary hypertension(120mmHg). Also, through cardiac catheterization was revealed a pulmonary vascular resistance 11 Wood units and a systemic vascular resistance 32 Wood units. These values prohibits an open heart surgery. Given the symptoms of the patient with episodes of marked dyspnea and repetitive pulmonary edema, the valve replacement is decided despite the high risk. Postoperative, the pressure monitorization with a Swan-Ganz catheter in the pulmonary artery reveales a decrease to 60mmHg. The postoperative evolution was favorable and the pacient was discharged after 8 days. **Discussions :** The development of pulmonary hypertension in the case of a mitral valve damage means a major risk for the pacient and a contraindication for the surgical treatment. The specialty guidelines consider that the association between the 2 affections should be approached medicinally in order to reduce the increased pulmonary pressure. **Conclusions:** The surgical approach to mitral valve damage in association with severe pulmonary hypertension, although contraindicated, has proven to be the most effective and fastest method of treatment in this case. The patient showed a favorable evolution immediately after the operation, the pressure in the pulmonary artery decreasing to 60 mmHG. The presented case aims to demonstrate the

effectiveness and success of surgery even in the case of severe prohibitive pulmonary hypertension.

Keywords: Pulmonary hypertension, Mitral valve, Stenosis

SURGICAL AORTIC VALVE REPLACEMENT FOR SEVERE AORTIC STENOSIS WITH VERY LOW EJECTION FRACTION

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Introduction: Aortic stenosis is a chronic progressive disease that limits left ventricular outflow, leading to chest pain, breathlessness, syncope and fatigue. Calcific aortic valvular disease (CAVD) is the most common cause of aortic stenosis. This is an inflammatory process involving macrophages and T lymphocytes, with thickening of the subendothelium and after fibrosis. Risk factors for CAVD include: old age, male sex, diabetes, hypertension, smoking, elevated lipoprotein and LDL cholesterol. **Case Report:** The aim of this paper is to present the case of a 48 years old male, diabetic, smoker, morbidly obese patient, presenting secondary valvular cardiomyopathy with NYHA IV heart failure symptoms, severe aortic stenosis treated with surgical aortic valve replacement. **Discussions :** Preoperative 2D and M-mode ultrasound revealed dilated left ventricle (LV diameter of 75mm and left atrium of 60/80mm), with severely diminished contractility. The ejection fraction was 20% and the transvalvular gradient 32/15 mmHg. After performing a Dobutamine stress echocardiography, the EF was 25% and the transvalvular gradient increased to 57/33mmHg presenting contractile reserve, which therefore offers a potential positive prognostic indicator. Chest angio-CT detected a severely calcified aortic valve with welded aspect of the right and left cusps and limestone conglomerate. Fine calcifications at the level of the posterior mitral ring provoked restricted movement and create a regurgitation grade III/IV. In accordance with the diagnosis, it was decided and practiced Aortic valve Replacement with mechanical prosthesis "CARDIAMED" no. 25 mm and "Alfieri" transaortic mitral valvuloplasty. ***Results:*** Transesophageal Echocardiography (TEE) showed a mechanical prosthesis in a normal-function aortic position, with a transprosthetic gradient of 22/14 mmHg. Mitral regurgitation grade I/II. LV with 30% EF. The subsequent evolution of the patient was favorable. Sixth months after the surgery the EF increased to 35%, and the symptomatology was NYHA II. **Conclusions:** In a patient with low EF and low transvalvular gradient but with a positive stress-Dobutamine test, the surgical valve replacement is a good treatment in order to prolong the survival and life's quality of the patient.

Keywords: #aorticstenosis, #surgicalaorticvalvereplacement, #mechanicalprosthesis, #lowEF

NEW LIFE OPPORTUNITY FROM A TRAUMA VICTIM

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Introduction: From its beginning in 1967 till present day, heart transplantation faced numerous difficulties, encompassing poor organ donation rates, as well as the perioperative challenges that occur in accordance with this procedure. Even if the year of 2022 was marked by the first ever xenotransplant, it is safe to say that for now, heterologous heart transplant represents the milestone of the transplantation field. **Case Report:** The aim of our paper is to present the case of a 21-year-old patient who is a successful organ donator after a severe crushing accident and a severe craniocerebral and upper thoracic trauma. Underlyning the fact that the timeliness of the donor's family as well as the great work out of the healthcare providers, assured a successful surgical outcome. **Discussions :** Upon arrival of the emergengy crew the patient is in asystole. After aprox. 10 minutes of resuscitation maneuvers, favorable response are obtained. Subsequently, the patient is transferred to the hospital where brain death is declared. Following the consent received from legal partners, the patient is evaluated for heart, liver, kidneys and cornea donation. Echocardiography detects ejection fraction of 50-60% without valvulopathies or kinetic disorders. The heart shows a preserved global contractility. Cardiectomy is performed and the heart is placed in ice packs and cold saline.***Results:*** The heart was transported by helicopter, to be transplanted in a 39-years-old patient. The postoperative prognosis is favorable. The patient had a good hemodynamically status after one year from the transplantation. **Conclusions:** The outcomes of these cases suggest that trauma donors have a vital role in meeting organ demands. Moreover, patients presenting with thoracic trauma (especially not involving the precordial region), with a normal echocardiography, no pericardial effusion who underwent cardiac resuscitation, can still meet the organ donation criteria when the time

management is fulfilled. In this way the number of heart donors will increase.

Keywords: #hearttransplantation, #traumadonors, #organdonation

ORIF FOR EQUIVALENT BIMALLEOLAR FRACTURE ASSOCIATED WITH A TILLAUX-CHAPUT FRACTURE AFTER FALLING DOWN

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Introduction: The bimalleolar equivalent fracture is an injury to both lateral malleolus and the ligaments on the inner side of the ankle. An unstable injury occurs when the fracture disrupts the structural integrity of the ankle making the joint susceptible to damage and early ankle arthritis. The pilon fracture occurs at the bottom of the tibia and involves the weight-bearing surface of the ankle joint; it typically occurs as the result of a high-energy injury like fall from a height **Case Report:** The aim of this paper is to present a case of EQUIVALENT BIMALLEOLAR FRACTURE associated with a Tillaux-Chaput fracture of the tibial pilon treated with ORIF using a 2 cancellous screws instead of the classical osteosynthesis technique with L-shaped locking plate. **Discussions :** A 32 years old male after a fall from 50 cm was presented with an equivalent bimalleolar fracture and anterior tibial pilon fracture with depressed central articular surface in his left leg. He was surgically treated with reduction of the fibula fracture through an open lateral approach and osteosynthesis with a 3.5mm reconstruction plate with 9 holes, 2 cerclage wires at the level of the fracture site and 1 syndesmotic screw passed through the reconstruction plate at the level of second hole distal to the plate; reduction of the anterior tibial pilon fracture through an open anterolateral approach and osteosynthesis with 2 cancellous screws with washers; postoperative immobilization in F-P splint.**Results**: Upon discharge, good general condition, without pain accusations and surgical wounds in the process of healing, without Celsian signs. Maintenance immobilization for 8 weeks. **Conclusions:** One of the main complications of intra-articular pilon fracture is post-traumatic ankle arthritis. The chance of developing it lessens after a correct restoring of ankle joint, but the cartilage can be irreversible damaged leading to arthritis. However, new molecular interventions, evolving surgical methods, like the use of bone substituent, aim to minimize or prevent progressive tissue damage triggered by joint injury.

Keywords: #bimalleolarequivalentfracture, #pilonfracture, #post-traumaticarthritis, #trauma

AMYAND HERNIA WITH CECUM NECROSIS-CASE REPORT

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Introduction: Amyand hernia is a very rare form of inguinal hernia with the presence of vermiform appendix in the hernia sac. Usually this type of hernia is found in the right inguinal region, but for the left side this could be possible if patient has situs inversus or intestinal malrotation. **Case Report:** A 45-year-old patient was admitted in our department with abdominal pain, an 8-cm lump in the right inguinal region and sings of bowel obstruction for the past 12 hours. Examination revelled a distended abdomen, silentium abdominal and the presence of a partial reducible right inguinal lump. A diagnosis of incarcerated inguinal hernia was established. Preoperative laboratory examination demonstrated a white blood cells count 10,500 mc and abdominal radiography showed dilated loops and multiple gas-fluid levels. Emergency surgery was performed and following herniotomy a prolapsed partially necrotic cecum and appendix was discovered in the hernia sac. Surgical treatment consisted of partial stappled cecum resection and appendectomy followed by hernioplasty (Postempski procedure). Two drains were used, one in the pouch of Douglas and one subcutaneous, both removed on the 3rd postoperative day. Later treatment consisted of hydro electrolytic rebalancing, antibiotics, anticoagulants and NSAIDs. Postoperative course was uneventful with patient discharge at 5 days after surgery. **Discussions :** One of the most asked questions in this pathology is about the necessity of prophylactic appendicectomy. Two cases were reported with acute appendicitis, appeared as a complication of Amyand hernia, even if the appendix had no signs of inflammation, during the hernioplasty; but most of the studies reveal that a prophylactic appendectomy is not needed to be done. In this case, Losanoff reported a classification for the surgical management, which is helpful for the decision-making, during the surgery. In our case, taking into account the necrotic aspect of the cecum and the necessity of cecum resection, appendectomy was the natural thing to do. **Conclusions:** Amyand's hernia is a rare entity with a

difficult preoperative diagnosis and surgical management. In this case, an ultrasonography or a CT-scan should be considered for the positive diagnosis and for the differential diagnosis. The early surgical treatment will reduce the risk of complications and gives a good postoperative prognostic.

Keywords: appendix, cecum necrosis, prophylactic appendicectomy, Losanoff's classification

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PULMONARY SQUAMOUS CELL CARCINOMA DIAGNOSED WITH LIVER METASTASIS - CASE STUDY

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Introduction: Lung cancer is one of the most common types of cancer encountered. Nearly half of newly diagnosed cases already have metastases at the time of diagnosis, the rate of liver metastases is quite low in non-small cell lung cancer(NSCLC) patients. **Case Report:** A 70-year-old patient underwent a thoracic and abdominal CT scan, which revealed multiple nodular processes in the lungs up to 7 mm in size, and a replacement process of approximately 6mm in the liver. He underwent a lung biopsy and also had a percutaneous transhepatic choloangiogram with a liver biopsy.On the bioptic fragments collected from the lung, there was seen a tumor proliferation consisting of cell placards with marked cyto-nuclear pleomorphism: enlarged nuclei, irregular, vesicular, with 1-2 eosinophilic macronucleoli. Tumor cell placards were separated by an abundant, desmoplastic stroma.Microscopically, the examined prepared liver section slide showed a large area of fibrosis with billiary hyperplasia and tumoral proliferation with nodular aspect consisting of anastomosed trabeculae(with a thickness of 2-4 cells) and placards of polygonal cells with pale, amphophilic, vacuolate cytoplasm, with nuclei with moderate pleomorphism, frequent mitosis and prominent nucleoli, without keratinization phenomena.The immunohistochemical profile was performed for both biopsies. At the pulmonary level the immunolabeling with anti-p40 antibodies was positive confirming the diagnosis of squamous cell carcinoma. In the liver the immunohistochemical staining was positive for cytokeratins(CK)8/18, 19 and p63; anti-hepatocyte HepPar1, NSE, TTF-1,(CK)7,20 were negative, suggesting the tumor is a metastatic pulmonary squamous cell carcinoma in the liver. **Discussions :** When we observe liver metastasis of lung cancer, we think of the possibility of an small cell lung carcinoma(SCLC), because this type has a higher rate of occurrence compared to squamous cell carcinoma or other types of NSCLC.Understanding the differences in metastatic patterns may help in the treatment decisions and confirming the diagnosis of metastasis. Regarding the guidelines for the management of squamous cell carcinoma(SCC) liver metastases, the options are limited, surgical ablation is a topic of interest and several studies have shown that for NSCLC liver metastases, surgical ablation can be considered a treatment because it has decreased both mortality and morbidity rates among patients, but there are not enough to prove its effectiveness. **Conclusions:** Diagnosing the primary tumor when it already has metastases establishes a poor prognosis.The prevalence of liver metastases in NSCLC is much lower than in SCLC. Many studies have shown the effectiveness of surgery in non-small cell long carcinoma, but this topic is still debated.

Keywords: Lung squamous cell carcinoma, Liver, Metastasis

ENDOVASCULAR INTERVENTION: THE ELEGANT APPROACH IN ARTERIAL STENOSIS

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Introduction: As atherosclerosis ranks amongst the top diseases of the modern age, it's no wonder that medicine must keep pace with this silent killer. Between the many treatment alternatives of such diseases, the endovascular approach provides a solid choice as a minimally invasive intervention that benefits both the patient and the practitioner. **Case Report:** An obese 57-year-old man, with a history of type 2 arterial hypertension and type 2 diabetes, presented to the hospital with the following symptoms: pain in the right leg and fatigability with insidious onset several months ago. The patient was admitted for further investigation and treatment. After local anesthesia in the left Scarpa's triangle, a retrograde puncture in the left common femoral artery was performed, followed by terminal aorta catheterization. Following contrast injection, two segmental eccentric stenosis were highlighted, the first one, around 80%-90%, found immediately after the emergence of the right common iliac artery, and the second one, around 60%, at the distal half of the right common iliac artery. Under fluoroscopic control, another retrograde puncture was carried out, this time at the level of the right common femoral artery. The stenotic lesions

were traversed using a guide, followed by the implantation of two stents and balloon post-dilation. Control injection highlights good stent adherence to the vascular wall and majorly improved angiographic blood flow. Postoperative evolution was favorable, with relieved pain, no signs of active hemorrhage or hematoma at the level of puncture. After intervention the patient underwent a dialysis session at the nephrology department and was discharged two days after admission, with proper medication and recommendations. **Discussions :** Slight discomfort and pain in the right leg wouldn't be much of a worry in an apparently healthy patient, although the multiple comorbidities that directly correlate with atherosclerosis point directly to a vascular disease, such as arterial stenosis. A simple Doppler ultrasound can tell you a lot about a patient's condition and can prevent further complications. **Conclusions:** Compared to traditional surgery, the endovascular approach proves to be a cleaner, more advantageous procedure, as it reduces the duration of such interventions, providing simultaneously a lower complication occurrence. It also shows minimal trauma and a faster recovery of the patient, being the preferred choice in small to medium sized lesions.

Keywords: stenosis, endovascular, stent, interventional radiology

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THE RARE CASE OF A GIANT ABDOMINAL WALL HERNIA

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Introduction: According to the European Hernia Society, a giant hernia measures more than 10 centimeters in diameter. Nowadays, such cases are rare because people have more access to medical services, hence hernias are often diagnosed and repaired in early stages. This paper aims to present the successful surgical management of a giant abdominal wall hernia. **Case Report:** A 49-year-old male patient which presented a giant mass at the level of the anterior abdominal wall, also diagnosed with high blood pressure and chronic venous insufficiency, was admitted to our department. Through anamnesis, it was determined that the initial signs appeared about 10 years ago consisting of a smaller hernia that had progressed in volume till the admission date. The diagnosis of giant ventral hernia (30/35/15 cm) associated with an important skin lesion, was established. Several tests were ordered before surgery: a complete blood count and biochemistry tests (that later revealed important dyslipidemia and hyperglycemia), an abdominal ultrasound (revealing a massive amount of fat, but otherwise no pathological findings), an electrocardiogram (suggestive for left ventricular hypertrophy) and spirometry (revealing a restrictive pattern). Surgical treatment and general anesthesia were recommended. **Discussions :** The surgical team decided to use a substitution polypropylene mesh allowing the closure of the abdominal wall.The patient had a favorable evolution, was discharged with some recommendations 8 days after the admission, and reportedly made a full recovery. **Conclusions:** This type of surgical intervention needs a well-trained team to manage not only the chief complaint but also the possible complications that can occur during the procedure. To have a fast recovery time and to avoid recurrence, patients with such large hernias have to make several lifestyle changes as well.

Keywords: giant abdominal wall hernia, hernia surgery, substitution polypropylene mesh

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ENTEROPROSTHETIC FISTULA FOLLOWING ILIOFEMORAL BYPASS- A LIFE-THREATENING CONDITION

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Introduction: Enteroprosthetic fistula is an abnormal communication between the gastrointestinal tract and a prosthetic vascular graft. There can be numerous causes for this to happen. Among them is the improper covering of the graft due to severe fibrosis of the retroperitoneal tissue, like the one caused by radiation therapy. **Case Report:** We present to you the case of a 53 years old woman presenting in the Vascular Surgery Clinic with an abnormal secretion from an inguinal surgical wound after a left iliofemoral bypass. The CT Angiography showed a 20mm fistula between the prosthetic graft and the sigmoid colon, leading to a 65mm iliopsoas muscle abscess linked by a subcutaneous granuloma. An exploratory laparotomy removed the prosthetic bypass graft and solved the sigmoid colon lesion by executing a Hartman I operation. The vascular approach was the prelevation of the left internal saphenous vein and the execution of a left iliofemoral autologous bypass with the inverted saphenous vein. In two days postoperatively, the left leg showed signs of ischemia. The autologous graft failed and presented

an acute occlusion, so an extraanatomical femorofemoral bypass was performed to save the leg using the right internal saphenous vein. Still, the limb showed severe ischemic signs in the next two days, so amputation was decided. The amputation stump was treated with negative pressure wound therapy. Severe infectious lesions caused by multiresistant bacteria were present (E. Coli, Clostridium, Pseudomonas). After over one month of hospitalization, the patient could continue the recovery at home. **Discussions :** The surgical procedures, conditions, and techniques continuously evolve, but we still encounter complications after complex surgical procedures, like fistulas. Enteric fistulas in vascular surgery put patients at significant hemodynamic and vital risk, affecting both digestive and vascular systems. The severe infectious local condition generated by such fistulas represents a technical challenge for the revascularization method of choice. Biological prostheses or a tissue bank should be available in such complex cases. **Conclusions:** In the fight against such high-risk complications, providing the best healthcare equals being able to offer technological resources. Negative pressure wound therapy proved to be salvatory for the amputation stump.

Keywords: enteroprosthetic fistula, bypass, amputation, negative pressure wound therapy

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WIRSUNGO-JEJUNAL ANASTHOMOSIS THAT COMPLICATES WITH SEVERE PANCREATIC FISTULA – CASE REPORT

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Introduction: Wirsung's duct jejunal anastomosis is performed for the treatment of chronic pancreatitis. The most important complication of this intervention is the pancreatic fistula. Pancreatic fistula is an abnormal connection between the pancreatic ductal epithelium and another epithelium surface. This is due to a disruption of the pancreatic duct leading to the pancreatic fluid to leak, producing erosion, and forming different pathways resulting in internal and external pancreatic fistulas. Our case report aims to present a patient that suffered an intervention for the repair of a pancreatic fistula that occured after a Wirsungo-jejunal anastomosis. **Case Report:** Our patient is a 63-year-old male that presents with a personal pathological history of acute biliary pancreatitis and choledochal lithiasis. Other associated pathologies are: stage 2 essential hypertension, mild mitral regurgitation, type 2 diabetes, median abdominal eventration. He suffered from chronic corpo-caudeo pancreatitis and required a Wirsung's duct jejunal anastomosis. Following this surgical intervention, he presented a pancreatic fistula as complication, which was repaired with a stent placed in the pancreatic duct. After 6 months, the prothesis is removed by an ERCP procedure. The patient's general condition is good, with normal values of the pancreatic amylase and hepatic enzymes, without inflammatory syndrome. The patient has mild anaemia and on the abdominal ultrasound thickening of the abdominal walls of the stomach is observed; based on these, exploratory endoscopy is requested. It reveals LA Grade A esophagitis, uncomplicated small hiatal hernia, Schatski ring, acute erosive bodily gastritis and erythematous antral gastritis. The patient is discharged with the recommendation to avoid nonsteroidal anti-inflammatory drugs (in case of administration, the association with gastroprotective drugs is required), alcohol and foods that increase the gastric acidity. **Discussions :** Pancreatic fistulas are common complication of pancreatic surgery but can lead to severe pathologies including intra-abdominal sepsis and haemorrhage, if not treated properly. In many cases a fistula resolves by restricting the patient's oral intake of food and with the use of long-acting somatostatin analogues, or even with no treatment. Surgical intervention for reparation of the pancreatic fistulas is not usually necessary, but it must be taken into consideration when the pancreatic leak persists more than 3 weeks. **Conclusions:** Obstructive chronic pancreatitis often requires surgical treatment. Pancreatic fistulas are common complication of the Wirsung's duct jejunal anastomosis that can lead to severe consequences. This is why the physician has to pay extra attention to the evolution and treatment of these patients.

Keywords: Pancreatic fistula, Wirsung’s duct jejunal anastomosis, Obstructive chronic pancreatitis

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SURGICAL MANAGEMENT OF ULCERATIVE COLITIS

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Introduction: Ulcerohemorrhagic rectocolitis is a chronic inflammatory condition being one of the most common forms of inflammatory bowel disease. This pathology occurs as a result of environmental and genetic factors that

induce an inflammatory effect on the gastrointestinal tract. **Case Report:** We present the case of a 54-year-old patient known for ulcerative colitis since 2017. The patient was diagnosed in 2017 with sigmoid tumor on the background of ulcerative colitis. The patient underwent surgery with mechanical Dixon procedure and afterwards he did chemotherapy. Subsequently, he underwent surgery again due to the appearance of an anastomotic fistula with generalized peritonitis for which laparotomy, left iliac anus, lavage and drainage were performed. Under treatment, the evolution was favorable with the remission of the inflammatory condition associated with RCUH. The patient was hospitalized in our clinic to restore the continuity of the digestive tract. The surgery performed for restoring the continuity of the digestive tract was Hartmann II operation, and regarding the parastomal and median eventration, the operating team opted for an abdominal wall repairing with polypropylene mesh. Postoperative evolution was favorable, without local or systemic complications. **Discussions :** Ulcerhemorrhagic rectocolitis is a major factor in the onset of anastomosis fistula. The appearance of the fistula required the Hartmann I procedure. On histopathological examination of the endoscopically harvested biopsy fragment, the results conclude that the morphological appearance is compatible with chronic active erosive colitis on the examined sections. Subsequently, after the drug treatment of RCUIH, the Hartmann II procedure was chosen. The advantages of the reintegration in transit of the colon and the abolition of the iliac anus have a positive impact on both local evolution of the RCUH and the quality of life of the patient. The Hartmann I procedure is a quick and less risky alternative for cases where the immediate condition may be critical and the long-term outlook may be optimistic. **Conclusions:** Even if the treatment of ulcerative colitis is medical, the surgical approach has an essential role, it is curative and eliminates the long-term cancer risk. The association of neoplasia makes it even more difficult to approach a long-term solution. Surgical management of ulcerative colitis is complex due to the risk of a high rate of morbidity and mortality. Serial surgical operations may be a viable alternative in the treatment of patients with RCUH.

Keywords: Ulcerative colitis, Hartmann procedure, Sigmoid tumor, Serial surgical operations

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THE BUDAPEST POUCH TECHNIQUE- INGENIOUS SURGICAL PROCEDURE AIMING FOR THE ENHACEMENT OF THE PATIENT'S QUALITY LIFE

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Introduction: As it ensures continence and spontaneous micturition by raising abdominal pressure, the Budapest pouch, an orthotopic continent urinary diversion, gives a higher quality of life. The terminal ileum, caecum, and ascending colon are used to create the urinary reservoir (similar to the Indiana pouch); ureters are implanted into the terminal ileum, and the caecum and urethra are anastomosed. **Case Report:** A 64-year-old patient with a BMI of 29.4 kg/m2 previously diagnosed with stage IB1 cervical cancer (FIGO 2009), undergoing initial surgical treatment and irradiation (external beam radiation therapy plus brachytherapy, total dose 76 Gy) at another facility, has been admitted with a central pelvic recurrence involving the vaginal stump and urinary bladder. The surgery for the recurrence included anterior supralevatorian pelvic exenteration followed by the Budapest Pouch technique. **Discussions :** Urinary diversion is required after a total or anterior pelvic exenteration. Because of its simplicity and durability, the Bricker conduit, a non-continent urinary diversion customized from the ileum, sigmoid colon, or other bowel segments, is most commonly used in gynaecologic cancer surgery and also by our team. Incontinent conduits require a permanent stoma as well as the use of urine bags. Continent heterotopic diversions (such as the Miami, Indiana, and Koch pouches) are more technically challenging, need persistent self-catheterization, and are more difficult to maintain. The quality of life scores of a heterotopic continent diversion and an incontinent reconstruction may be comparable for these reasons. The most important oncologic requirements for creating a Budapest pouch are the presence of a central pelvic recurrence and supralevatorian tumor that allows for the preservation of an undamaged urethra or bladder neck. This procedure is not indicated for tumors affecting the lower part of the bladder. In addition, the patient's overall health must be sufficient to allow this procedure. **Conclusions:** Because of the unique pattern of tumor development, the exenterative phase of pelvic exenteration might sometimes be difficult. For the reconstructive phase of exenteration, the chosen technique must adapt to oncological and surgical findings, aiming to maintain patient's quality of life.

Keywords: Budapest pouch, urinary diversion, innovative surgical technique, tumors

MIGRATION OF A BROKEN STERNAL WIRE IN AN UNEXPECTED PLACE - A CASE REPORT

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Introduction: For heart surgery, median sternotomy is the most used surgical approach. Valve surgery through median sternotomy has been proven to lead to long-term survival rate, low morbidity and lowmortality. Even though less invasive procedures are starting to take place, median sternotomy is still maintaining its popularity due to great exposure of the great vessels and the heart, also used for lungs, congenital heart defects and heart transplants. Migration of sternal wires, used to stabilize the two divided parts of the sternum, is extremely rare, but still a potential complication, with very few cases being described in the literature. **Case Report:** We present you a case of a 65 years old male patient who arrived in the Cardiovascular Surgery Department of County Emergency Hospital from Târgu-Mures accusing sharp pain and discomfort in the laterocervical region for the last few months. Relevant personal pathological history reveals that our patient underwent surgery for aortic valve replacement with mechanical prosthesis 4 years ago with sternotomy with wire osteosynthesis. After clinical examination and anamnesis, the presumptive diagnosis was suspicion of catheter retention in the jugular vein. However, after RTG and CT were performed, this diagnosis was infirmed and a final diagnosis of fractured sternal osteosynthesis threads fragment and migration in the latero-cervical region was put. Patient underwent surgery for removing the discovered foreign body, which was done by latero-cervical incision with local anaesthesia. There were no further complications during or after the surgery was performed. The patient needed no hospitalization, the patient was discharged with no particular further recommendations for physical activity. **Discussions :** The evolution of the case is, to say at least, very rare. Ruptured sternal wires can go unnoticed since they can cause no symptoms in some cases. It is considered a surgical emergency if they are displaced of at potential risk of migration. Recent studies showed migration of the sternal wires into the heart, great vessels or even the tracheobronchial tree. These being mentioned, the particularity of this case is exceptional giving the location of the displaced wires in the latero-cervical region as a consequence to a surgery that took place over 3 years prior the symptoms. **Conclusions:** This, being a rare phenomenon, can lead to serious and catastrophic complications, prompt surgical removal is recommended, regardless of location of the displaced wires, CT being the gold standard for final diagnosis.

Keywords: Sternotomy, Migration, Ruptured, osteosynthesis threads

GIGANTIC INCISIONAL HERNIA WITH LOSS OF DOMAIN COMPLICATED WITH PERFORATED ACUTE APPENDICITIS

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Introduction: Incisional hernias consisting of protrusion of the abdominal viscera can result from the insufficient closure of the fascia or poor healing. Moreover, prolonged postoperative intra-abdominal pressure contributes to its development and even complications such as incarceration or strangulation, if left untreated. The surgical treatment depends on the extent of the hernia and can use component separation, synthetic or biological meshes to completely repair the defect. **Case Report:** The aim of this report is to present the approach of the abdominal wall reconstruction in a case of a gigantic incisional hernia with loss of domain complicated with perforated acute appendicitis.We report the case of a 62-year-old female admitted in the Surgery Clinic 1 with the following symptoms: irreducible incisional hernia, diffuse abdominal pain, abdominal swelling, loss of appetite, and absence of bowel movement. The computer tomography showed an eventration with the following dimensions 17/25/20 centimeters, containing ileal loops, cecum, ascending colon, partly transverse colon, with incarceration of a segment of the ascending colon. Also densification of the pericolonic fat and several small hydroaeric levels in the upstream ileal loops were present. Significant medical history revealed a performed cesarean section. The patient underwent an emergency surgery. After opening the herniar bag and performing adhesiolysis, we noticed a

purulent suppuration from a gangrenous and perforated appendix. The appendectomy was followed by the Oscar Ramirez technique along with an intraperitoneal onlay 20/15 centimeters substitutional composite mesh repair to facilitate the closure of the abdominal wall. During the admission, the patient became hypoxic and tested positive for SARS-CoV-2 infection. Therefore, she was moved to the COVID-19 intensive care unit to receive specific treatment. Histopathological results reported perforated acute appendicitis with periappendicitis due to a hyperplastic polyp of the appendix. Postoperative recovery was favorable without any complications of the surgery itself, nor the SARS-CoV-2 infection. **Discussions :** Abdominal wall reconstruction in patients with bacterial contamination is challenging and there is a consensus that synthetic mesh hernioplasty should be avoided in infected operations. Due to the large abdominal wall defect, a substitutional mesh was necessary to ensure its closure together with the component separation technique. **Conclusions:** Using the synthetic mesh in the intraperitoneal onlay manner in this infected setting presented similar outcomes to clean procedures and resulted in a safe abdominoplasty.

Keywords: eventration, abdominoplasty, mesh, appendicitis

RECONSTRUCTIVE MANAGEMENT IN A PATIENT WITH A RECURRENT BASAL CELL CARCINOMA OF THE NASAL DORSUM WITH A GLABELLAR FLAP

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Introduction: Basal cell carcinoma of the nose is the most frequent site for skin malignancy, especially in sun-exposed areas, such as ala, dorsum and tip. It is very important to be remarked and treated early - otherwise, it is extremely likely to become locally invasive, grow wide and deep, destroying all the tissues and even the bones. In this case, the reconstruction would be more difficult to proceed in that area. The reconstruction process of nasal defects poses a particularly unique challenge for the surgeon, with the main goal of obtaining both a functional and an esthetic result. **Case Report:** We present the case of a 81-years old female patient, previously diagnosed with a mixed basal cell carcinoma of the nose and operated in July 2021. She came back to our Plastic Surgery Department for a basal cell carcinoma (nodulo-ulcerative histological type) recurrence at the level of the nasal pyramid. The second surgery consisted of an excision of the tumor, followed by a histopathological exam and an extemporaneous examination (free from tumor) and a reconstruction procedure, with the glabellar flap for covering the nasal defect. The secondary defect of the donor site was directly sutured. **Discussions :** A radical tumor excision , a satisfactory aesthetic and functional results are the primary targets in this case. There are multiple options and techniques to reestablish the functional and aesthetic integrity, but the decision regarding the operating plan depends on the size of the lesion, as well as its localization. In this particular case, the surgeon's option was the glabellar flap, given the fact that it is a one stage operation which provides a similar skin texture, a pleasant color and a good contour match with the surrounding skin. The glabellar flap contributes in avoiding a gross deformity, thus the high level of patient satisfaction. In this exceptionally case, using other types of flaps, such as a nasolabial or frontal one, are supposed to lead to two-stage surgeries. **Conclusions:** Even though facial plastic surgeons use a variety of reconstructive techniques, the glabellar flap proves to be an effective choice, with an adequate result of the reconstructed area in terms of color and texture.

Keywords: glabellar flap, basal cell carcinoma, nasal defect, functional and aesthetic challenge

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PALLIATIVE SURGICAL PROCEDURE IN UNRESECTABLE PANCREATIC DUCTAL ADENOCARCINOMA AND SYNCHRONOUS GIST

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Introduction: Pancreatic ductal adenocarcinoma (PDAC) represents an aggressive type of tumor of the digestive system, which despite the major advances of nowadays surgical techniques and systemic treatment remains with low five-year survival of less than 10%. Surgery is the only potential cure for pancreatic ductal adenocarcinoma and should always be combined with adjuvant chemotherapy . **Case Report:** A 82-year-old patient, polyallergic, with the following comorbidities: essential hypertension grade 2, osteoporosis, presents himself in the emergency room with obstructive jaundice, nausea and fatigue. The paraclinical examinations, endoscopic ultrasound and

contrast-enhanced CT scan describe a hypoechoic cephalopancreatic lesion, that has contact with portal vein and superior mesenteric vein of more than 50% of its diameter, without elements of thrombosis, dilation of the Wirsung duct and bile ducts are pronounced. Laboratory tests show a noticeable acid-base and hydroelectrolytic imbalance, cholestasis and marked hepatocytolysis. External drainage of bile with T-tube insertions was performed but without a considerable improvement in symptoms and it was decided to perform a palliative surgical intervention instead. An exploratory laparotomy was performed with a double derivation: latero-lateral gastro-jejunal anastomosis and termino-lateral hepato-jejunal anastomosis with Roux-en-Y reconstruction, lymph node biopsy from the hepatic hilum and excision of the intestinal GIST(gastrointestinal stromal tumor). Following the histopathological examination of the intraoperative resection pieces, the diagnosis of invasive pancreatic ductal adenocarcinoma with a poorly differentiated GIST and without malignant elements in the lymph nodes of the hepatic hilum was made. **Discussions :** Due to the insidious evolution of the disease, patients often come to the surgical department in an advanced stage, therefore the progress of the diagnosis and management of pancreatic cancer has still poor survival even in the last decades. Statistical analysis showed a poor prognosis of patients with pancreatic adenocarcinoma, which cannot be resected and a significantly increased risk of morbidity of this pacients. Laparotomy retains a crucial role in the management of pancreatic cancer, although endoscopic stents provide a useful alternative for palliation in elderly patients. However, statistical analysis shows that palliative laparotomy to remove the obstruction brings a greater improvement in the patient's symptoms. **Conclusions:** PADC is a very aggressive tumor diagnosed most often in the terminal and invasive phases. GIST is a rare tumor, especially collision with a PADC, a few cases being reported in the literature. Of all the palliative surgical methods, hepato-enteral bypass is the most efficient for improving the patient's quality of life, even if the mortality rate is unchanged.

Keywords: pancreatic ductal adenocarcinoma, gastro-intestinal stromal tumors, synchronous GIST and PDAC, palliative surgery for pancreatic cancer

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LARGE OVARIAN CYST IN A 14- YEAR OLD GIRL

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Introduction: Ovarian cysts are benign tumors commonly seen in practice. If undiagnosed, they can develop to large size and become symptomatic. We present the case of a 14 year- old girl with a large ovarian cyst treated in our department. **Case Report:** A 14-year old girl was admitted with abdominal pain and distension, vomiting, and difficult breathing. The MRI exam identified a large fluid-filled cystic tumor, most likely left ovarian cyst. Other useful lab data included CBC, biochemical profile and tumor markers. Informed consent of the family was obtained and laparotomy was performed. A large, 6- liter, left ovarian cyst was evacuated and then removed. Additionally, a left adnexectomy was performed. The postoperative course was favorable. Prophylactic measures against deep vein thrombosis were taken and early ambulation was achieved with no signs of local pain. At 6- month and 1- year follow- up visits the patient was doing well. Pathology was consistent with ovarian cystadenoma. No malignancy or local/ systemic recurrence were identified. **Discussions :** Epithelial neoplasms of the ovary account for 60% of all ovarian tumors and 40% of benign tumors. Ovarian cystadenomas are common benign epithelial neoplasms with an excellent prognosis. Most serous tumors are large, spherical to ovoid, cystic structures up to 30 to 40 cm in diameter. The cystic spaces are usually filled with a clear serous fluid. They can be discovered at routine US exams or when they become symptomatic. In our case, the cyst developed to very large size without proper attention on behalf of the patient and the family. It became symptomatic with pain, abdominal distention and respiratory symptoms (dyspnea). Given the large size, it required open surgery and evacuation of the large cyst (6 L of clear fluid) followed by cyst removal and left adnexectomy. Should it have been discovered earlier, a much more conservative approach could have been chosen. **Conclusions:** This case report calls attention to early diagnosis of large ovarian cysts (tumors) and proper surgical treatment in order to obtain satisfactory results. Fertility preservation should also be sought in such cases.

Keywords: ovarian cyst, cystadenoma, laparotomy, adnexectomy

SURAL FLAP FOR ANKLE RECONSTRUCTION: A CASE REPORT

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Introduction: The sural flap is the best-known neurocutaneous flap of the foot. When microsurgical technique is not possible, the sural flap is a major mean of reconstructing the lower leg, ankle, heel, and foot. The most important advantages of using this flap are relatively simple dissection, sparing the major artery, and low donor site morbidity. **Case Report:** A 39-year-old woman presented to the clinic with the diagnosis of external malleolar ulcer of the right leg of unknown etiology. CT angiography was performed and aortobiiliac thrombosis was identified for which aortobifemoral bypass was performed. She was later admitted to the plastic surgery department to cover the defect of the external malleolar level. The Doppler signal at the level of the perforators was good, so the sural flap was chosen. The local evolution was favorable. **Discussions :** The patient was placed in a prone position for dissection. The line of incision was identified with Doppler ultrasound and was performed over the course of the sural nerve and lesser saphenous vein. The fibular artery emanates from four to eight perforators, which penetrate the crural fascia, and give rise to many branches that link adjacent perforators, forming a vascular suprafascial plexus which expands from the proximal part of the leg to the posterior margin of the lateral malleolus. The main perforator is larger and located 5 cm proximal to the lateral malleolus. The flap is marked on the skin as an ellipse centered on the raphe between the two gastrocnemius muscle bodies. The incision begins on the lateral and superior edges of the flap and continues in the subfascial plane until the sural nerve is identified in the median raphe. The next step is the ligation of all the perforators from the gastrocnemius belly and the inclusion of the septum between the muscles in the flap. The sural nerve is adhered to the fascia at the upper edge of the flap. **Conclusions:** The sural flap is a safe and adjustable technique, an alternative to free flap transfer, for the treatment of complex lower limb defects in healthy or vascularly compromised patients.

Keywords: Sural flap, External malleolar ulcer, Plastic surgery, Ankle reconstruction

CONVENTIONAL VS COMPUTERISED EVALUATION OF PEDIATRIC BURN WOUNDS – CASE REPORT

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Introduction: The initial assessment of a burn wound consists of a complete anamnesis including time of injury and burning agent, physical examination in order to determine the burned body site, depth of burn and burned surface area. In pediatric population the estimation of the burned percentage of the total body surface area (TBSA) can be calculated by using the rule of palm or Lund-Browder diagram. Software assisted methods have also been developed. **Case Report:** A 9-year-old girl was admitted to our ward with cervical, thorax and upper limb second and third degree burns. The burned surface area was evaluated three times (pre-hospital care, emergency department and ward) using different evaluation tools until the burn wounds treatment algorithm was initialised. The evaluation differences were considerable. The dressings were changed twice a week under general anaesthesia. The third degree burned area was covered after 10 days with skin graft harvested from the thigh. The burned areas healed in 32 days. **Discussions :** Overestimation or underestimation in calculating the burned surface area and depth of burn is due to the evaluation method, the examiners' experience level and evaluation tools in emergency conditions. It can lead to unnecessary patient transfer to a tertiary centre, inappropriate fluid resuscitation and major complications. Computerised devices automatically calculate the percentage of the burned TBSA, providing fast and accurate information for the resuscitation protocol. **Conclusions:** Burn wounds in pediatric population may have long lasting impact on the quality of life. A rapidly and correct initial assessment in these cases is essential to avoid complications. It should be mandatory for each unit which treat burn wounds to purchase evaluation software for calculating the burnt TBSA in a precise and fast manner.

Keywords: pediatric, burn, TBSA, computerised

SURGICAL MANAGEMENT OF AN APPENDICEAL MUCINOUS NEOPLASM IN A PATIENT WITH SUSPECTED IPMN

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Introduction: Appendiceal mucinous neoplasms represent an uncommon group of heterogeneous pathological entities in which case the appendix becomes enlarged and filled with a thick liquid called mucin. Other types of lesions presenting mucus-secreting tumor cells are intraductal papillary mucinous neoplasms (IPMNs) that involve the pancreatic ducts. This case report aims to highlight the surgical management of a mucinous appendiceal neoplasm and to launch the assumption about a connection between these two mentioned conditions. **Case Report:** We report the case of a 66-year-old women patient admitted to the gastrointestinal surgery department for laparoscopic appendectomy of an appendiceal mucinous neoplasm which was diagnosed last year, but due to pandemic conditions it could not have been performed. The main complaints of the patient were an abdominal mass in the right iliac region, constant and dull pain in the left lumbar region, change in bowel habits and weight loss. In her pathological antecedents, tuberculous pleural effusion was reported 10 years ago. The contrast-enhanced thoracoabdominal computed tomography demonstrated not only a dilated appendix (up to 14 mm in diameter) with thin walls and medium intensity content, but also a pancreatic corporeal cystic-like lesion similar to IPMNs, with no communication with the duct of Wirsung. The appendiceal mass was also described on colonoscopy as a submucosal lesion covered by normal mucosa. The patient underwent an uneventful laparoscopic appendectomy with no complications during postoperative recovery. Six months after the surgery, her general state is improved, but the ultrasound shows the increase of the pancreatic mass for which magnetic resonance cholangiography is indicated. **Discussions :** Due to severe complications, such as pseudomyxoma peritonei, the biopsy of appendiceal masses should be avoided. In addition, multiple examinations and careful removal of the appendix during laparoscopic surgery should be performed. In a few patients, there has been reported a connection between appendiceal mucinous neoplasms and other tumors such as those involving the gastrointestinal tract, ovary and breast. This represents the particularity of our case as the patient had two simultaneous lesions, the suspected IPMN still necessitating further investigations. **Conclusions:** Prospective studies should evaluate if there is a common etiology for this association of tumor lesions and provide advanced treatment solutions for these illnesses.

Keywords: Appendiceal mucinous neoplasms, IPMN, Laparoscopic appendectomy

AN ANATOMICAL VARIATION OF PRINCIPAL TRIBUTARIES OF THE PORTAL VEIN - CASE REPORT

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Introduction: Mapping the tributary patterns of the portal vein has a huge practical importance. Familiarity with all possible anatomical variations is essential for successful surgical procedures in the right upper quadrant of the abdomen. **Case Report:** We present an unusual anatomical variant observed during the dissection of a cadaver at the Department of Anatomy and Embryology of the "George Emil Palade" University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Romania. According to the long-established description, the portal vein is formed by the union of the superior mesenteric vein and the splenic vein which is joined by the inferior mesenteric vein behind the neck of the pancreas. In spite of that we observed an unusual tributary variation: the inferior mesenteric vein drains directly into the superior mesenteric vein without connecting to the splenic vein. **Discussions :** An important landmark lies at the level of the L2 vertebrae, behind the neck of pancreas. At this point the joining of the left gastric vein and the inferior mesenteric vein may be seen but in our case the IMV is found 2 CM below that point. **Conclusions:** The case we presented demonstrates that there are anatomical variations of the portal venous system that are partially or entirely different from the traditional descriptions. Unrecognizing this aspect during surgery can have a catastrophic outcome for the patient.

Keywords: superior mesenteric vein, inferior mesenteric vein, splenic vein, anatomical variations

SUBCHONDROPLASTY AS A SURGICAL TECHNIQUE FOR BONE MARROW LESION

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Introduction: The cartilage and subchondral bone act as a single functional unit (osteochondral unit), which interact and cooperate to perform joint function. Changes in one component may affect all other components. The biomechanical relationships between the articular cartilage and the underlying subchondral bone play a significant role in the initiation and progression of osteoarthritis. **Case Report:** A 51 year old healthy man previously treated for severe knee pain presented once again with a limited range of motion. During the MRI examination, subchondral bone marrow signal alterations were present in the medial femoral condyle. Based on the clinical and imaging investigations, the diagnosis of bone marrow lesions (BML) was reached. Due to the ineffectiveness of conservative treatment, a surgical approach was taken into consideration. Arthroscopy and subchondroplasty of the medial femoral condyle under general anesthesia were performed. A debridement chondroplasty was performed to remove the loose additional cartilage. Once the arthroscopy was completed, the operative leg was prepared for the subchondroplasty procedure. The guide wire was placed following 3 MRI plans. Then, the cannula was confirmed using an orthogonal fluoroscopic view. Finally, the bone substituent was injected into the lesion. **Discussions :** An observational study shows that patients with MRI-observed BMLs were nearly nine times as likely to progress to TKA (total knee arthroplasty) over a 3-year follow-up period .After subchondroplasty, both Knee Injury and Osteoarthritis Outcome scores show a significant increase at the six and twelve month follow up. **Conclusions:** Subchondroplasty may provide a viable approach to treat pain associated with BMLs. It represents a less invasive, joint-perserving surgical technique.

Keywords: subchondroplasty, cartilage, osteoarthritis, arthroscopy

CAN YOU PRECISELY RECOGNIZE AN INJURED BLOOD VESSEL WALL? A CHALLENGING CASE OF SUPERIOR MESENTERIC ARTERY PSEUDOANEURYSM IN A PATIENT WITH RETROPERITONEAL HEMATOMA

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Introduction: Visceral artery aneurysms and pseudoaneurysms are relatively rare clinical pathologies, usually incidental findings. Among all, superior mesenteric artery (SMA) pseudoaneurysms are the rarest type (5.5%), appearing to carry a higher risk of rupture than true aneurysms, thus leading to significant mortality rate requiring early diagnosis and specific treatment. **Case Report:** A 67-year-old woman with past medical history of hypertension was admitted in the emergency department complaining of severe epigastric and right upper quadrant pain associated with dizziness, sweating and decreased appetite. Physical examination demonstrated a significant abdominal tenderness and the laboratory studies showed mild anemia and leukocytosis. CT angiogram of the abdomen revealed a 10 mm aneurysmal dilatation of inferior pancreaticoduodenal branch of SMA associated with large retroperitoneal hematoma. Due to the patient's age, abdominal obesity and pseudoaneurysm localization, it was decided to treat the pseudoaneurysm transarterially. Catheter angiography confirmed a 1 cm pseudoaneurysm. During injection of iodinated contrast directly in the SMA, rupture of the lesion occurred. Immediate superselective catheterization of the pancreaticoduodenal branch with a microcatheter was obtained, and a mixture of Glubran-Lipiodol was injected until complete obliteration was acquired. Postoperative evolution was favorable under hydro-electrolytic rebalancing, antibiotics, anticoagulant, multiple blood cell transfusions and the patient was discharged 5 days later. **Discussions :** Pseudoaneurysms are encountered in association with inflammatory diseases such as acute pancreatitis, infection, vasculitis or trauma. Clinical diagnosis is difficult, as they are often asymptomatic or present nonspecific symptoms. Therefore, CT angiography is mandatory to confirm the diagnosis. Multiple studies suggest that treatment of pseudoaneurysms is compulsory because they have a high risk of rupture at any size. Treatment options include surgical resection, endovascular obliteration or percutaneous thrombin injection. The choice of therapeutic approach is based on presenting symptoms, anatomical characteristics, clinician's experience and also patient's condition and comorbidities. Due to pseudoaneurysm localization, endovascular embolization of the arteries distal and proximal to the pseudoaneurysm using cyanoacrylate glue was considered the optimal procedure in this case. SMA

pseudoaneurysms can escape diagnosis as they are unusual clinical entities. Early diagnosis of this rare vascular disease and its immediate specific treatment, make this case particular. **Conclusions:** Visceral pseudoaneurysms should be included in the differential diagnosis of a patient presenting with sudden abdominal pain and anemia of unexplained cause as they are potentially life-threatening and demand urgent treatment. CT angiography is indispensable for a fast diagnosis allowing us to prevent devastating outcomes.

Keywords: visceral artery pseudoaneurysm, superior mesenteric artery, endovascular therapy

BILATERAL SIMULTANEOUS MIDDLE CEREBRAL ARTERY OCCLUSION - A RARE AND CHALLENGING CASE

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Introduction: The most commonly affected intracranial vessel in acute ischemic stroke is the middle cerebral artery (MCA). Simultaneous, bilateral MCA occlusions are extremely uncommon, accounting for less than 1% of ischemic stroke presentations, carrying a devastating prognosis. **Case Report:** A 74-years-old woman with past medical history of hypertension, heart failure (NYHA II), chronic atrial fibrillation and asthma, with medication taken as prescribed, presented with right hemiparesis and aphasia that occurred 2 hours prior to presentation. Based on the neurological and computed tomography examinations, a diagnosis of left MCA ischemic stroke was established and intravenous thrombolysis was initiated. CT angiography confirmed the left MCA occlusion. During thrombolysis, the patient became unresponsive and consciousness decreased from 15 to 7 points on the Glasgow Coma Scale. Non-contrast CT excluded hemorrhagic transformation, Endovascular treatment was decided and aspiration thrombectomy was performed 5 hours after symptom onset resulting in immediate left MCA recanalisation. After recanalisation, subsequent contrast injections in the vertebral and right internal carotid arteries revealed the cause of her sudden coma: simultaneous contralateral MCA occlusion. Aspiration thrombectomy was performed resulting in complete reperfusion of both MCA territories. On the following day, the patient made an almost full recovery of her neurological symptoms. **Discussions :** Bilateral, simultaneous occlusion of both MCAs can result from cardiac embolism, atherothrombosis or bilateral ICA dissection. In our case, chronic atrial fibrillation that was inefficiently anticoagulated, is the most likely culprit of the thromboemboli that migrated in both MCA's. Bilateral ischemic stroke is associated with high morbidity and mortality rates. In such cases, time management is crucial. The patient was admitted relatively fast after symptom onset. CT was performed shortly after the presentation and the patient received the appropriate treatment immediately. Intravenous thrombolysis is usually the first treatment modality in acute ischemic stroke. However, in cases with a high thrombus burden, recanalisation rates are low, consequently endovascular therapy has to be initiated, owing to its much higher recanalisation rates and better long-term outcomes. **Conclusions:** Bilateral MCA occlusion is an extremely rare cause of acute ischemic stroke. It must be considered in patients that present unilateral stroke symptoms followed by acute worsening and coma. Early recognition with the help of computed tomography angiography is essential in order to guide treatment decision. Endovascular thrombectomy is mandatory in these cases due to the high recanalisation rate.

Keywords: middle cerebral artery, bilateral ischemic stroke, endovascular therapy

GIGANTIC RETROPERITONEAL LIPOMATOUS FORMATION

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Introduction: Lipomas are benign mesenchymal tumors found anywhere in the body where normal fat cells are present. They take the form of soft painless masses located subcutaneously or may involve fascia or deeper muscular planes. **Case Report:** A 66 year old female patient presents to the surgical section of the Mures county hospital accusing the presence of a abdominal formation which appeared 4 moths ago accompanied by pyrozis,meteorism and abdominal discomfort. At inspection in the mesogastric area the formation elevates the tegument with bulging of the region. At palpation it is fixed, not painful, elastic consistency and a 20 cm diameter. A CT exam was performed which showed a tumoral formation in the right abdominal flanc 213/164 mm. There will be a surgical intervention in which a lipomatous formation occupying the right flanc moving the colic frame medially, adhering intimally to the right kidney, vena cava and aorta is found. The disection of the formation without harming

the elements previously mentioned is performed. In the inferior part, the tumor will adhere tightly to the right ovary without cleavage plane for which an en block excision including the ovary will be performed. The excised parts will be sent to a histopathological test. The histopathological results show adipocytes with nuclei pushed to the periphery. Between them, cells with eosinophilic cytoplasm, pleomorphic nuclei, cells with vacuolated nuclei, fusiform cells with hyperchromic nuclei, the final diagnostic showing a well differentiated lipomatous tumor. **Discussions :** The histopathological exam of the abdominal formation shows a lipomatous tumor leaving questions to be solved by additionally making a differential diagnosis with a liposarcoma. For the differential diagnostic of certainty between a lipoma and a well differentiated "lipoma like" liposarcoma immunohistochemical (MDM2, CDK4) or molecular biology analyzes are recommended for this case . Liposarcomas don't have specific symptoms. The symptoms are represented by compression of the nearby structures (nerves, muscle, organs, constipation, abdominal distension, abdominal ache). Treatment depends on the extent and location of the tumor: surgery, radiation therapy, chemotherapy. **Conclusions:** The post operatory evolution was favourable. The patient was leaded to immunohistochemical tests (MDM2, CDK4) in order to differentiate the lipomatous formation from a possible liposarcoma.

Keywords: lipoma, liposarcoma, tumor, surgical

MEDIASTINAL TRACHEOSTOMY- A WAY TO A LONG-TERM SURVIVAL

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Introduction: A rare and a challenging surgical procedure with a high morbidity and mortality rate represented by the construction of a tracheostomy stoma within the intrathoracic trachea is anterior mediastinal tracheostomy(AMT). This case was designed to assess the therapeutic outcome of anterior mediastinal tracheostomy after an extended resection of a highly aggressive laryngeal tumor. **Case Report:** In the following case we present a 62-year-old male patient admitted at the hospital accusing: inspiratory dyspnea, stridor-pathological whistling and persistent cough. An otorhinolaryngology physical exam was performed revealing a tumoral mass and the diagnosis of squamous cell carcinoma was established by radiological imagistic findings and histopathological examination of a biopsy of the growth. Laryngopharyngectomy and extended resection of the proximal trachea was effected through a manubrectomy , leaving above the carina 4 cm of remnant trachea. In order to avoid the compression from the surrounding structures and furthermore risking the development of an anatomic tracheal obstruction, the relocation of the tracheal stump below the innominate artery was performed. Due to this essential surgical step, the innominate artery no longer crosses the trachea anteriorly, contributing to a safe and affective symptomatic compression of the tracheostoma. Moreover, the remaining tracheal length was too small for an end-to-end anastomosis and to overcome the shortness of the trachea, the AMT procedure was adopted. For covering the soft tissue defect of the neck, we used pectoralis major myocutaneous flap without any intraoperative complications. **Discussions :** The intraoperative surgical procedure of the AMT course was uneventful, without any further complications. The required surgical technique involves the relocation of the remaining trachea below the innominate artery and the muscle flap as a reliable technique due to the fact it has not only excellent vascularity and mobility, but also provides bulk for the obliteration of the uncovered space. **Conclusions:** The presented case report emphasizes the importance of the AMT as an optimal treatment after a total laryngectomy. Radical surgery is regarded in order to establish a satisfactory airway in the intrathoracic trachea, and it highlights the technical difficulty and challenge of this clinical problem.

Keywords: laryngeal tumour, stridor, innominate artery, tracheostomy

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AN INTERDISCIPLINARY APPROACH OF A RARE AND GIANT FIBROSARCOMA ARISING FROM THE CHEST WALL: CASE REPORT

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Introduction: Fibrosarcoma is a rare and highly malignant tumor originating from the mesenchymal cell, more

specifically from pathologically transformed fibroblasts with an uncontrolled division rate. This type of malignant chest wall tumor has an incidence of less than 2% of the population and an optimal assessment includes wide surgical resection with tumour-free margins along with preservation of the major neurovascular structures. **Case Report:** A 65-year-old male patient who was accusing mediastinal pain was diagnosed in 2015 with a 2x2 cm fibrosarcoma after performing the physical chest examination and excisional biopsy followed by chemotherapy and radiotherapy. The most common presentation is a slowly growing mass that is asymptomatic until it becomes large enough to compress or invade the surrounding structures. Without any successful results of the approached treatment and moreover with the patient's denial regarding the surgical removal, in 2017 the patient was admitted again to the hospital because of the progressive tumor's expansion. The patient has undergone a complete anterior chest wall resection with adequate borders and partial diaphragmatic and omental resection. The reconstruction of the anterior chest wall was accomplished by applying pectus bars, using latissimus dorsi muscle and covered with low extremity skin flap' without any intraoperative and postoperative complications. **Discussions :** The diagnose was histopathologically confirmed as fibrosarcoma, a giant mass with a 21x19 cm diameter. Wide resection achieved tumor negative borders. The aim is to emphasize the importance of following the proper procedures for treating on time the malignancy of the chest wall and to avoid a possible recurrence due to the limited benefit of the previous adjuvant therapies. This pathology is associated with high surgical morbidity and can result in full thickness defects which are hard to reconstruct. **Conclusions:** The presented case report highlights the importance of an early appropriate surgical management, which is essential for decreasing the risks of tumor spreading as well as the prevention of an expanded chest wall resection. The keys of a long-term survival and of a successful chest wall reconstruction consist of restoring the rigidity, preserving the respiratory mechanical functions and protecting the intrathoracic organs while minimizing the thoracic deformity.

Keywords: fibrosarcoma, chest wall, mediastinal pain, skin flap

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SURGICAL MANAGEMENT IN PATIENTS WITH BITE WOUNDS

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Introduction: Currently, dog attacks are a big problem in Romania and prevention strategies are not yielding considerable results. Unlike other types of injuries, bite wounds require special attention as the risk of infection is higher and associated comorbidities can lead to an unfavourable outcome. Thus, rigorous history taking, choice of the optimal surgical method and postoperative wound care are essential to prevent complications. **Case Report:** We report the case of a 71-year-old female patient, known to have a history of type II diabetes and high blood pressure. She was admitted to the emergency room for multiple bite wounds on the right forearm and leg. She is under chronic treatment with Siofor and ACE inhibitors, being clinically and hemodynamically stable. The patient was later redirected to the Plastic Surgery Department with partial lesions of the fingers' flexor and extensor muscles with degenerative edges, radial nerve contusion, comminuted fracture in the proximal third of the radius and partial lesions of the anterior tibial muscles. The surgical team decides to conduct the primary surgical dressing by excising the devitalized tissues. The procedure is completed by the exploration of the forearm lesion without suturing the wound . The following day, the tibial defect is covered with a skin flap whereas remaining defects are covered with a split-thickness graft harvested from the anterior face of the thigh. On the forearm, finger extensor muscles myorrhaphy and their anchoring to adjacent muscles are done. Skin defects are reduced by padding and direct sutures, and the remaining defects are covered by a split-thickness graft. Postoperative evolution is favourable, without signs of inflammation. The patient is receiving anti-inflammatory, analgesic, antibiotic and anticoagulant treatment. **Discussions :** Any lesion caused by an animal bite has an increased infectious potential as most of them are carriers of different pathogens. In consequence, suturing the wound is never performed after the first surgery. After that, depending on the evolution of the wound, the reconstruction of the defects is carried out. A consultation by an infectious disease specialist is mandatory to determine the need for rabies vaccine which in this case was not recommended. A common complication of bitten extremity injuries is compartment syndrome and as a result a decompression fasciotomy should be performed. **Conclusions:** These cases often require interdisciplinary approaches in order to choose an optimal therapeutic method. In this particular case, prompt intervention was performed without underestimating the patient's injuries leading to a favourable postoperative outcome.

Keywords: Dog,, attack,, bite,, wound

GIANT UTERINE MYOMA DURING PREGNANCY: CLINICAL CASE PRESENTATION

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Introduction: Uterine myoma, or leiomyoma, is a benign, hormone-dependent tumor that develops from the muscular layer of the uterus and has a muscular-fibrous consistency. Depending on the size and location of the nodules, the symptoms may differ, manifested in most cases by pelvic discomfort, dysmenorrhea, menorrhagia, and urinary dysfunction, but being asymptomatic in many cases. Myomatous nodules can cause complications during pregnancy, causing miscarriage or premature birth, placental abruption, incorrect fetal position, and intrauterine growth restriction. Considering that the number of pregnancies associated with myomas increases each year, the problem remains relevant for obstetricians-gynecologists. **Case Report:** Patient N. 35 years old, was admitted to the hospital with a diagnosis of pregnancy at 40-41 weeks of gestation (w.g.), intrauterine growth restriction of the fetus (4 weeks), placenta previa, and giant uterine myoma (USG measurement 146x130 mm). The patient primary called for a consult of a family doctor at the term of 30 w.g., being uninvestigated until that time. Considering the complications listed above, it was decided to deliver by elective cesarean section. Intraoperatively, a giant myomatosis node (dimensions 30x25 cm) was found in the lower uterine segment, covering the cervical canal. Incision on the uterus was made higher than the leiomyoma's localization, fetus was delivered with success. In order to preserve the uterus, a classic myomectomy was performed. At the revision of the uterine cavity, the accretion of the placenta previa into the myomas lodge was revealed. It was decided to perform a subtotal hysterectomy without annexes with drainage of the abdominal cavity. The postoperative period was without complications. **Discussions :** According to recent epidemiological data, uterine myomas are diagnosed in about 20-30% of women aged 30-50 years, more frequently occurring in the African race. Only 30% of patients will manifest clinical symptoms, the rest being asymptomatic. Multiple or large leiomyomas are associated with an increased rate of infertility, miscarriage, placental pathology, cesarean section, and negative impact on the fetus. **Conclusions:** Pregnancy planning and adequate antenatal management remain an important topic for the entire medical system. Early detection of pathologies with potential danger for pregnancy and the development of appropriate treatment tactics allow the minimization of perinatal complications.

Keywords: Leiomyoma, Pregnancy, Cesarean section

GIANT RETROGASTRIC TUMOR: A CASE REPORT

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Introduction: Abdominal tumors may affect any organ, solid or hollow, in addition to the peritoneum. A peripherally situated abdominal tumor is sometimes visible from the exterior as a lump or distortion in the abdominal wall. **Case Report:** We present the case of a 63-year-old female patient, who was admitted in our clinic with the following accusations: diffuse abdominal pain in the upper floor, nausea, vomiting, bloating and weight loss of about 4 kg. Prior to the presentation, the patient was in another surgical service where, following the imaging investigations (CT), the diagnosis of a retrogastric cystic formation, possibly a pancreatic pseudocyst, was made. At the local examination, an abdomen was detected above the xipho-pubic plane, globular, sensitive to palpation, which bulges in the epigastric and mesogastric region. In the afternoon of the hospitalization, the patient presented with an episode of upper gastrointestinal bleeding (500ml of fresh blood), for which reason a nasogastric tube was fitted and Controloc was administered. A CT scan was performed urgently which revealed a giant upper abdominal tumor formation of 251/154/223 mm plated by the posterior wall of the stomach without a cleavage plan, with a compressive effect and bleeding, but with a cleavage plan towards the pancreas. Subsequently, gastroscopy was performed which revealed esophageal ulceration and a gastric body partially stenosed by extrinsic compression, and mediogastric three lesions of the mucosa, without detecting fresh blood. On the second day of hospitalization, the local anesthesia was fitted with an ultrasound-guided transparietal Pig-tail catheter in the left hypochondrium to the tumor formation, with extravasation of serohemorrhagic fluid (2000ml). On the third day after mounting the catheter, surgery was performed and exploratory laparatomy was made where a giant cystic,

hemorrhagic tumor formation (25 / 30cm) was highlighted, located retrogastrically (Pig-tail catheter present in the cavity of the formation). The formation infiltrates the large curvature of the stomach, which is why a longitudinal segmental resection of the stomach (with 2 EndoGia staplers) was performed at this level. Next, the excise of the formation was performed in its entirety, with its subsequent referral to the histopathological examination. The patient's postoperative evolution was favorable, with her discharge on the sixth postoperative day. **Discussions : Conclusions:** We presented the case of a patient with a giant abdominal tumor located retrogastrically with stomach infiltration. The histopathology of the tumor will dictate its nature and subsequent therapeutic conduct.

Keywords: general surgery, retrogastric, tumor, laparotomy

NEGATIVE PRESSURE WOUND THERAPY VIVANO FOR SKIN GRAFTS

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Introduction: Negative Pressure Wound Therapy (NPWT) is an innovative technique in managing complex wounds. It consists of a closed, sealed system that applies negative pressure to the wound surface. **Case Report:** A 60-year-old patient is hospitalized with the diagnosis of skin necrosis, right Achilles region. She presents with a post-traumatic rupture of the Achilles tendon at the operated right leg (infection with Proteus spp) and with right lower limb cellulite. Therefore Vivano negative pressure treatment was established. **Discussions :** In case of surgical debridement, negative pressure therapy can be initiated 24 to 48 hours postoperatively. When changing the dressing, the old dressing can be removed from the wound, if necessary, under irrigation with saline Applying the dressing (gauze or sponge) cut sterile according to the shape and size of the wound, which can be impregnated with antiseptic and / or silver salts and the dressing should fill the wound gently (without being "stuffed" into the wound). Application of the semi-permeable film must be circumferentially 3 - 5 cm above the edges of the wound, and the skin around the wound must be well dried to ensure adhesiveness by cutting a round of semi-permeable film, located centrally in relation to the size of the wound. Further application of the collecting tube at the level of the previously cut hole, mounting the collecting container in a vacuum source and connecting the tube at the wound to the collecting container applying negative pressure. It can be done continuously (at the beginning of treatment - the first 48 hours or in case of wounds with abundant secretions) or intermittently (5 minutes aspiration - 2 minutes break, used after decreasing the amount of secretion) The optimal subatmospheric pressure is between -80 mm Hg and -120 mm Hg for intermittent suction. Therapy pressure level will be set according to the amount of exudate and the patient's sensitivity, so the dressing will be changed every 36 to 72. The postoperative evolution is favorable, the pressures of the Vivano apparatus are checked daily and increased according to the patient's tolerance (125 mmHg / 70 mmHg intermittently). The graft has been integrated, no pathological secretions or infection signs are observed anymore and a granular, clean, red wound is highlighted. **Conclusions:** The negative pressure wound therapy is the efficient method for those who suffer from ulcers,bedsores or any other lesions of skin, vessels or soft tissue.

Keywords: Negative pressure Vivano, Skin grafts, Rupture of the Achilles tendon, Plastic surgery

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THE COMPLEX MANAGEMENT OF A PATIENT WITH A HEART TRANSPLANT

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Introduction: Heart transplantation offers patients with end-stage dilated cardiomyopathy a chance for a better quality of life. In Romania, there are 96 patients that have benefited from heart transplant surgery. In order to avoid organ rejection, the patients must receive immunosuppressive therapy, consequently increasing the risk of developing infections, malignancies, renal dysfunction, diabetes mellitus, and many more. Extracorporeal membrane oxygenation (ECMO) can be used in selected cases to reduce perioperative mortality, used as a bridge to transplant or bridge to recovery. **Case Report:** We present the case of a 41-years-old male patient, diagnosed with idiopathic dilated cardiomyopathy (20% ejection fraction), congestive heart failure, NYHA class IV. He was admitted to the Institute for Cardiovascular Diseases and Transplant Targu Mures in October 2021, when orthotopic heart transplantation was performed using the bicaval technique. Due to postoperative manifestation of low cardiac output syndrome, central ECMO support was required in the first three days post-transplantation.

Furthermore, in January 2022, as a consequence of sternal dehiscence, mediastinitis, and sternal osteitis, surgical reintervention was conducted to evacuate mediastinal and pericardic collections, to excise devitalized tissues, and to reconstruct the sternum using Robicsek osteosynthesis technique. One week later, due to presternal wound dehiscence, wound debridement using Vivano negative pressure therapy was applied. Concurrently, was performed thoracoscopic evacuation of left apical and basal pleuritis. One month later successful surgical presternal wound closure was attained. **Discussions :** After 170 days spent in the ICU, 77 days of mechanical ventilation, and multiple surgical interventions the patient's evolution is favorable, all complications have been resolved. The patient is afebrile, hemodynamically, and respiratory stable, with slight anemia and mild renal dysfunction. He is recovering, improving his muscle tone through kinetotherapy and looking for a full recovery. **Conclusions:** Heart transplantation prolongs patients' life expectancy, remaining a troublesome procedure requiring perioperative special care. ECMO is regarded as an efficient method when tackling life-threatening complications in the management of severe cardiomyopathy.

Keywords: heart transplant, ECMO, cardiomyopathy

THE IMPORTANCE OF AN INTERDISCIPLINARY APPROACH TO POST-BURN HAND DEFORMITIES IN CHILDREN

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Introduction: Post-burn deformities of the hand in pediatric patients are associated with significant functional limitations and a decrease in quality of life. Given the risk of permanent disability, a comprehensive care plan is essential for a good outcome following reconstruction. **Case Report:** A four-year-old boy presented with a post-burn scar on his right hand secondary to a deep thermal burn caused by boiling water suffered one year prior. The history revealed poor living conditions and the absence of proper management in the acute phase of the injury. The physical examination indicated a limited range of motion in metacarpophalangeal joints and reduced grip strength. Adhesive contraction and post burn syndactyly were present. The radiography showed soft tissue loss, as well as severe dislocation of the metacarpophalangeal joints (I-V). Due to the presence of multiple deformities the patient underwent a complex surgery which consisted in reducing the metacarpophalangeal luxation, osteosynthesis of the fingers, separation of interdigital tissue and contracture release. The surgeon decided to use a fasciocutaneous abdominal pedicle flap from the left iliac fossa and hypogastric region, given the major exposure of the tendons after release. Post-surgery, the arm was immobilized with a Dassault bandage. Adequate rehabilitation techniques were explained to the primary caregiver with the help of a physiotherapist. The patient is scheduled for reevaluation of hand functionality. **Discussions :** Management of post-burn hand deformities such as contractures and syndactyly consists of surgical release of the skin, appropriate splinting along with reconstructive procedures. In this particular case, the sequelae were severe as a consequence of child neglect and delayed presentation. Thus the treatment plan had to be devised by a team composed of plastic and pediatric surgeons. The result of surgical correction must be maintained by supervised physiotherapy. **Conclusions:** Whereas acute burn care is generally managed by multidisciplinary, specialized burn units, postburn defects tend to be referred to surgery consultation. Aesthetic enhancement of the hand alone generally is insufficient since the functionality is also altered. Post-burn deformities require an interdisciplinary approach in order to minimize functional deficits and improve the disfigured appearance.

Keywords: post-burn deformities, contracture, syndactyly, interdisciplinary approach

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QUASI TOTALLY AMPUTATED INDEX FINGER DUE TO TRAUMATIC AXE INJURY IN 4 YEARS OLD PATIENT- SURGICAL MANAGEMENT

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Introduction: Replantation/revascularization of severely injured single digits is controversial, especially at the index position. Conventional wisdom is that these digits if salvaged will ultimately worsen residual hand function, and they should be amputated. However, short-term outcomes are better in children than for adults, supporting the indication to perform replantation in this age group when the surgeon feels that replantation is feasible and safe. **Case Report:** A four years old male patient was admitted after suffering an index injury. After clinical examination

and X-ray investigation, the diagnosis was partial amputation at the level of the first phalanx of the index finger, caused by an axe blow, with a remaining pedicle on the dorsal side of the ulnar border and incomplete fracture of the first phalanx of the middle finger. An emergency surgery was performed. After careful debridement, osteosintesis with Kirschner wire of the first phalang, profound flexor and extensor tendons repair, revascularization of the finger was performed under the microscope using 10.0 prolene suture (for the digital artery in the ulnar border and the digital ulnaris and radialis nerve of the index). The wound was then sutured, bandaged and immobilized with a splint. **Discussions :** The postoperative evolution was slowly favorable, with venous congestion of the finger in the first five to seven days. The patient was discharged in proper condition with improvements in the revascularization process. Some of the specific details in this case are the young age of the patient and the remaining tegumentary pedicle which ensured the venous drainange. **Conclusions:** Based on the progression made in this case, we should focus on the prompt surgical intervention in cases of complete or partial amputated fingers in order to restore blood flow of the affected area.

Keywords: revascularization, trauma, partial amputation

THERAPEUTIC CHALLENGES IN THE TREATMENT OF SPONTANEOUS ILIOPSOAS HEMATOMA ASSOCIATED WITH LMWH THERAPY IN A PATIENT WITH ATRIAL FIBRILLATION AND SARS-COV-2 INFECTION

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Introduction: Spontaneous retroperitoneal bleeding rarely occurs late postoperatively in patients on low molecular weight heparin therapy without affecting the area of surgery. Their incidence increases when associated with SARS-CoV-2 infection. In the case of iliopsoas muscle hematoma, the symptoms are discrete or even absent, and because of that it is difficult to diagnose. **Case Report:** A 79-year-old male with permanent atrial fibrillation and peripheral arteriopathy under oral anticoagulant treatment with acenocoumarol in combination with pentoxifylline is hospitalized for surgical treatment of prostate adenoma. The conversion from oral anticoagulant therapy to LMWH is performed before open prostatectomy. Although the intraoperative hemostasis was good, with no signs of active bleeding, immediately after the patient presents hematuria required reintervention for hemostasis, with favorable follow-up. Day 10 postoperatively the patient complains of suddenly installed severe pain in the left inguinal region, with irradiation in the lower limb and the lumbar region, with functional impotence of the left lower limb, for which abdominal CT with contrast substance is performed and spontaneous hematoma of the ileopsoas muscle, possibly due to the administration of low molecular weight heparin was detected. The patient becomes hemodynamically unstable and surgery is decided. The patient's evolution subsequently shows infection with SARS-CoV-2 for which the specific treatment is administered, according to the national guidelines. There is a favorable outcome from a surgical point of view, but medically aggravated by SARS-CoV-2 infection. **Discussions :** Taking into account the indications for anticoagulation (permanent atrial fibrillation, procoagulant status due to SARS-CoV-2 infection, prolonged immobilization) as well as those for discontinuation of anticoagulant therapy (spontaneous ileopsoidal hematoma, hemodynamic instability), the case represents a therapeutic challenge regarding anticoagulant therapy. **Conclusions:** In patients undergoing anticoagulant therapy with LMWH, spontaneous hematoma of the iliopsoas muscle is a rare complication, and therapeutic conduct is difficult, with approaches ranging from conservative, interventional treatment and open surgery.

Keywords: LMWH, hematoma, iliopsoas, anticoagulation

INTESTINAL SUBOCCLUSION DUE TO CIRCUMFERENTIAL STENOSING RECTOSIGMOID NEOPLASM: A CASE REPORT

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Introduction: A rectosigmoid neoplasm is an abnormal benign or malignant tissue mass formed especially at the rectosigmoid junction. It usually develops from an adenomatous polyp, a benign outgrowth. Most of the colorectal polyps are , only 5-10% of all polyps will turn into cancer in about 10-15 years. Due to its slow growth, a colorectal neoplasm is usually diagnosed in an advanced stagedue. The aim of this case report is to present the serious

effects of colorectal cancer, which has become clinically evident only at a late stage. **Case Report:** A 62-year old man presented abdominal cramps and diarrhea alternating with constipation, for the past 2 weeks, and a 7 kg weight loss in 7 months. The clinical examination revealed abdominal distension and hematochezia. The biochemical parameters showed hepatic cytolysis and cholestasis. The native CT -Scan displayed a circumferential tumor with parietal thickening (11 mm) and lumen narrowing of the sigmoid colon. Lumbar lymphadenopathy, and multiple, iodophilic formations in normal-sized liver were also observed. At 15 cm from the anal orifice, the colonoscopy showed a recto-sigmoid formation, stenosing, circumferential-thickened, insurmountable by endoscope, and macroscopic malignant appearance. The echoendoscopy examination showed a tumour that extends through all the layers of the colon and recants the serous membrane. Core-needle aspiration of lymph nodes and histopathological examination confirmed a cancerous neoplasm. A hepatic biopsy described: adenocarcinoma with abundant central necrosis in the glands, with columnar cells forming acinar structures, and mucin production, confirming metastasis of colorectal primary tumor. After these examinations, the tumor has been staged: T4aN2aM1b (stage IV). Based on the findings above, the diagnosis of stenosing rectosigmodian tumor was made, and the decision of surgery was taken, following neoadjuvant chemotherapy with Capecitabine. By laparoscopic approach, surgical treatment consisted of affected colon dissection, malignant lymph node removal, and termino-terminal colorectal anastomosis. **Discussions :** Postoperatively, the patient presented a favorable general condition and results within normal limits. He also received follow-up consults in the oncology department and adjuvant chemotherapy with Capecitabine. **Conclusions:** Currently, colorectal cancers are the third cause of mortality worldwide, developing slowly from normal structures and generating serious negative consequences in the late stages. As in the case above, due to the delayed effects, the patient suffered intestinal subocclusion with severe symptoms and decision of surgery within a few days. Therefore, early screening methods and detailed regular consulations are strictly required, especially for those over 45 and with family history of malignant tumors.

Keywords: malignant neoplasm, recto-sigmoid tumor, colo-rectal anastomosis, rectal bleeding

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VATERIAN AMPULLOMA: DIAGNOSIS AND MANAGEMENT OF A RARE GASTROINTESTINAL CANCER

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Introduction: Vaterian ampulloma is an adenocarcinoma located at the level of the junction between the choledoc duct and the second part of the duodenum, arising in a zone of transition between two different epitheliums. Its incidence is 0.59 per 100.000 per year, accounting for only 0.2% of gastrointestinal cancers. **Case Report:** A 61-year-old female patient presents in the emergency department due to vomiting, weight loss and jaundice. Blood tests indicate a high CRP (2mg/dl), total bilirubin of 7.3 mg/dl, conjugated 6.5 mg/dl and high transaminases values, suggesting an inflammatory hepatobiliary process. The abdominal echography shows an impressive dilatation of the main biliary duct, up to 3cm, with no hyperechogenic formation at the cephalic level of the pancreas, raising the suspicion of a tumoral formation in the distal choledoc or at the level of the ampulla. A CT scan was recommended and the results confirmed the suspicion of a tumor by showing a distal choledochal obstruction, most likely at the level of the ampulla, with no sign of biliary sludge. The histological examination concluded that the biopsy sample was a well differentiated adenocarcinoma in the G1 stage. Given all the facts, the patient was diagnosed with vaterian ampulloma (T1a N1 M0). As no vascular invasion was observed, the patient underwent the Whipple procedure. The surgical team opted for a pancreato-gastric anastomosis rather than a pancreato-jejunal one, since several studies reveal a smaller risk of postoperative pancreatic necrosis and leakage. Given the fact that the pancreas had a soft consistency, it was performed an à la Witzel jejunostomy, in order to reduce the risk of fistulas. The postoperatory evolution was favorable, now the patient is under oncological surveillance and adjuvant chemotherapy is not considered necessary yet. **Discussions :** As the obstructive jaundice with no sludge present can be the first common manifestation of the vaterian ampulloma and also of other gastrointestinal affections (duodenal and pancreatic cancers, distal cholangiocarcinoma) this rare malignancy should be taken into consideration in the differential diagnosis process. **Conclusions:** Besides its rarity, another particularity of vaterian ampulloma is the early appearance of the indicative symptoms, making it possible to be diagnosed at an incipient stage and allowing a prompt surgical intervention, in order to get a favorable prognosis. We highlight that so as to ease the management of this affection the diagnosis should be the key point of the process.

Keywords: Gastrointestinal cancer, Vaterian ampulloma, Whipple procedure, Pancreato-gastric anastomosis

WHEN INTERVENTIONAL TREATMENT AND CLASSIC SURGERY SHAKE HANDS- SUBCLAVIAN ARTERY OCCLUSION- A CASE REPORT

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Introduction: Stenosis (narrowing) of the subclavian artery is most commonly caused by atherosclerosis, and it usually affects the left subclavian artery. Most of the time it is asymptomatic and usually it is discovered incidentally during other medical investigations such as imagistic findings or other tests. **Case Report:** The purpose of this paper is to present the case of a 79 years old patient that was admitted at the neurology department of the Emergency Hospital of Targu Mures for headache, vertigo and paresthesia of the left superior limb. After the Doppler-Ecography investigation, a severe stenosis (70%) was found at the level of the internal carotid artery, for which the patient followed endarterectomy at the vascular surgery department. Due to the persistence of the symptoms, she returned to the neurology department and another severe stenosis was found in the left subclavian artery (40mm from its origin), for which the minimum-invasive approach was preferred. The intervention took place at the interventional radiology department. During the intervention, a subclavian steal syndrome was observed while injecting contrast agent in the right vertebral artery. A Wallstent was mounted and normal blood flow was reestablished. By the end of the intervention the patients symptomatology persisted despite the normal bloodflow, so another intervention was necessary 24 hours later. Tiny pieces of clot were extracted from the original stent and another stent was mounted inside the first one. A blockage of the brachial artery (distal segment) was discovered, for which suction trombectomy was attempted, without any result. **Discussions :** There are several advantages of endovascular intervention compared to the classic vascular surgery in this case. No general anesteshia, quick recovery time and fewer risks are just some of them. In contrast, minim-invasive interventions have their limitations when it comes to small or peripheric arteries. **Conclusions:** Taking all these into consideration, we can conclude that each approach for the present case has its own benefits and limitations. Proper timing and evaluation of risk factors for each type of approach is crucial in such patients.

Keywords: endovascular, stenosis, stent, subclavian

ADVANTAGES OF LAPAROSCOPIC SURGERY FOR RADICAL PROSTATECTOMY - CASE REPORT AND LITERATURE REVIEW

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Introduction: Prostate cancer is a major public health problem across the globe and is the second most common cancer and the fifth leading cause of cancer death in men worldwide. Almost all prostate cancers are adenocarcinomas. These cancers develop from the gland cells. The main type of surgery for prostate cancer is a radical prostatectomy.The aim of this case presentation was to assess the impact of laparoscopic surgery in radical prostatectomy and quality of life for our patient, taking in consideration the advantages of laparoscopic approach versus the classic open radical prostatectomy in terms of blood loss, hospitalization time and costs.
Case Report: We present a case of a 61 years old patient with diagnosis of prostate adenocarcinoma after transrectal prostate biopsy (PSA 9,28ng/ml) performed after the patient presented with a history of one year of mictional difficulties, disuria and a mild erectile disfunction. The clinical stage was T_2 BN_(0) M_0 with no evidence of clinically significant neoplasia. The histopathological examination showed left lobe adenocarcinoma Gleason 3+4=7 (grade4: 20%), grade group 2 (apex, median and basal). The Patient was included for laparoscopic radical prostatectomy after the therapeutic options assessment. Patient's inform consent was obtained for publication of data and images. **Discussions :** Given the complications of invasive interventions whether it is a classical or laparoscopic approach, it would be preferable to intervene on early stages of cancer. In order for a tumor to be operated on at an early stage, proper screening is needed.At present, prostate cancer screening is most commonly done through measuring the prostate specific antigen (PSA).In recent years, attempts have been made to study the of neutrophils / lymphocytes ratio in peripheral blood to detect prostate cancer.Neutrophil-to-lymphocyte ratio (NLR) is a simple parameter to assess easily the inflammatory status of a

subject. It has proven its usefulness as a strong prognostic factor in several types of cancers including prostate cancer. **Conclusions:** The advantages of the laparoscopic approach are a magnified view of the anatomic structures, and a decreased venous bleeding in the surgical field allowing an accurate dissection of the prostate and neurovascular bundles. These advantages translate to a low morbidity profile, and favorable postoperative quality of life outcomes and a reduced overall cost with patient management in hospital.

Keywords: Prostate cancer, Laparoscopy, Radical Prostatectomy

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RARE CASE OF RECURRENT MECHANICAL BILIAR OBSTRUCTION WITH GALLSTONES AND WITH ASCARIS LUMBRICOIDES

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Introduction: A case of biliar obstruction with gallstones and with ascaris lumbricoides. The infection with Ascaris Lubricoides is one of the most frequent helmitic infection around the globe. The adult worm usually lives in the small intestine but it's possible to migrate in the billiary tree and can cause colecistitis, biliary obstruction and even hepatic ascariasis. This migration in the biliary tree is favored by past colecistectomy or sphincterotomy **Case Report:** 59 years old female comes to the Emergency Department accusing abdominal pain, jaundice and discoloured stool. Paraclinic investigations shows choledocal lithiasis (dilatet bile ducts). Furthermore sphincterotomy and inserting of biliar are proceeded and after that, colecistectomy is proceeded. The post-surgical evolution is favorable and the patient is discharged. 6 days after the patient comes again with the Charcot triad of symptoms: abdominal pain, jaundice and fever. It is suspected a purulent subhepatic collection for which a surgical procedure is done. The main bile duct has 2cm in diameter. A coledocotomy is done and it's excised a 2cm stone and a 15cm Ascaris from the left hepatic duct. The main bile duct is drained with a Kehr tube. Post surgical the evolution is favorable. examination at 7 days respectively 3 months is normal. **Discussions :** Discussions on paraclinic investigation: in the second hospitalization the eosinophiles value is higher than in the first time. The direct and indirect bilirubine is high in both times but in the first time is much higher (maybe due to the long time suffering at home before going to hospital). The neutrophiles are slightly more elevated in the second hospitalization. The amylazes are high in the first hospitalization. The MRCP and the colangio-CT shows dilated bile ducts. **Conclusions:** According to the eosinphiles values from the first hospitalization an infection with Ascaris Lumbricoides is not suggested. The case supports the results of the study regarding the much higher possibility of migration of the ascaridae in the biliary tree after a colecystectomy or a sphincterotomy is proceeded. The particularity in this case is the double obstruction with gallstones and Ascaris Lumbricoides.

Keywords: mechanical jaundice, gallstones, ascaris lumbricoides

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HIP HEMIARTHROPLASTY WITH BIPOLAR STENTING IN A CASE OF AN ELDERLY PATIENT WITH COMORBIDITIES

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Introduction: Femoral neck fracture is a very common pathology in which treatment varies according to the age of the patient. For younger patients, Open Reduction Internal Fixation Surgery can be performed, whereas for older patients, hemiarthroplasty with bipolar endoprosthesis is preferred. **Case Report:** The 87-year-old patient presented to the emergency department with pain and functional impotence in her right hip due to a fall trauma from the same level. Following an X-ray of the hip joint, the diagnosis of femoral neck fracture was made. In view of the patient's advanced age, the decision is taken to perform a surgical procedure such as hemiarthroplasty of the affected hip with bipolar endoprosthesis. **Discussions :** The patient's age and comorbidities such as type II diabetes mellitus and grade 1 atrioventricular block led to the decision to choose a cemented bipolar prosthesis over a unipolar prosthesis as treatment for this pathology. According to studies conducted by the Australian Orthopaedic Association, it has been shown that there is a higher risk of revision of the unipolar (almost double) stent patient due to acetabular erosion. Diabetes mellitus is an important factor when making the decision for surgical treatment, as studies have confirmed that bone mineral density is lower in diabetics and additionally there

are clotting problems and old age. **Conclusions:** This case highlights the risks of treating a femoral neck fracture in an elderly person with diabetes and cardiovascular problems. Studies show that, after the age of 85, in almost 100% of patients, a fracture at the hip joint is the consequence of falling sideways from the same level, caused by low bone density. For these patients, recent studies highlighted the importance of limiting the bone erosion by using bipolar hemiarthroplasty for fewer complications and better long-term outcomes.

Keywords: Bipolar endoprosthesis, Hemiarthroplasty, Diabetes mellitus, Fracture

THE IMPACT OF MULTIPLE COMORBIDITIES ON CARDIAC SURGERY OUTCOMES: CASE REPORT

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Introduction: It is scientifically proven that diabetes, obesity, extracardiac atherosclerosis, and arterial hypertension (AH) cause a higher incidence of complications after cardiac surgery, increasing the overall mortality. Recent studies reported that diabetic patients are prone to develop cardiac, renal, or pulmonary dysfunctions after cardiovascular surgery, presenting a higher rate of surgical reinterventions and prolonged intensive care unit stay. Such critical conditions are usually preceded by severe intraoperative hemodynamic instability, for which VA ECMO has often proven an effective temporary solution. **Case Report:** We present a case of a 70-years-old female with a history of poorly controlled type 2 diabetes, stage III obesity, severe coronary and carotid atherosclerosis, stage 3 AH. During a cardiovascular reexamination, the echocardiography has shown multiple cardiac valvular dysfunctions (severe aortic stenosis and regurgitation, moderate mitral and tricuspid regurgitation) as well as significant stenosis of right internal carotid arteries. The coronarography has additionally revealed severe stenosis of the Right Coronary Artery (RCA) and of the Anterior Descending Artery (ADA). The surgical intervention for this patient implied aortic valve replacement with a biologic valve, coronary artery bypass grafting (CABG) with saphenous venous grafts for RCA and ADA, and angioplasty with an autologous venous patch of the right internal carotid artery. Postoperatively, due to the development of low cardiac output syndrome (LCOS), it was decided to initiate circulatory support with peripheral arterio-venous ECMO. After 24 hours, the patient's hemodynamic status improved significantly, therefore the ECMO assistance was suppressed. The patient was released 14 days after the accomplishment of surgical intervention, with no postoperative complications, in good general condition. **Discussions :** This case illustrates the impact of multiple comorbidities on the outcome of complex cardiac surgery. Studies comparing diabetic to non-diabetic patients undergoing CABG surgery have shown that postoperative complications are directly correlated with the preoperative glycemic status. Unexpectedly, patients with moderate glycemic control exhibit a better postoperative evolution than those with rigorous control of glicemia. **Conclusions:** Elderly patients are always subjected to a higher operative risk, especially in complex cardiac interventions. In patients with metabolic diseases, the incidence of cardiac lesions is increased compared to the general population. ECMO acts as a life-saving tool when the other conventional resources have been exhausted.

Keywords: Coronary revascularization, Comorbidities, ECMO

3D LAPAROSCOPIC PYELOPLASTY MANAGEMENT IN PATIENT WITH HORSESHOE KIDNEY

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Introduction: A minority of the global population, bellow 1%, suffers from a congenital abnormality of the renal system named Horseshoe kidney. This malformation is frequently linked to diseases, such as syndrome of pyeloureteral junction and vesicoureteral reflux. These congenital anomalies, alongside aberrant renal vessels and high insertion of ureter in the kidney, they all cause hydronephrosis and renal insufficiency ultimately. The goal is to assess the best outcome for our patient, managing this case through laparoscopic pyeloplasty. **Case Report:** We present you a 51-year old female patient, diagnosed with horseshoe kidney, having a history of high-blood pressure and obesity. She presented in the ER of our hospital accusing severe lower back-pain and nausea, symptoms that began a week before. She underwent a series of investigations including echography, URO-CT and intravenous pyelogram, which highlighted a severe hydronephrosis of the left kidney caused by the obstruction of

the ureteropelvic junction. The surgical team decided to carry out a 3D laparoscopic intervention, a pyeloplasty, furthermore adding a double J stent to help urinary drainage. **Discussions :** The intervention went most desirable, our patient did very well post-surgery. There were no complications and no more symptoms in the following days. She presented to the clinic 3 weeks after, for catheter removal and follow-up. **Conclusions:** Judging by the good outcome and low risks, laparoscopic procedures enhanced by the 3D technology, regarding congenital abnormalities like horseshoe kidney, seem to be very safe and achievable and lead the pathway to future minimally invasive urologic procedures.

Keywords: congenital abnormality, laparoscopic intervention, hydronephrosis, renal system

POSTER - NON - SURGICAL

THE MANAGEMENT OF RECURRENT LUMBAR PAINS AFTER A HERNIATED DISC SURGERY

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Introduction: A herniated disc represents the pathology where the nucleus (the inner part of the intervertebral discs) is pushed out of the annulus, causing pressure on the roots of the spinal nerves. Depending on the severity of the damage, the symptoms may vary from case to case, as well as the treatment, which should be adapted to the needs of each patient. **Case Report:** We present the case of a 63 year old man who complaint of recurrent lower back pain, iradiating in the inferior extremities till the ankles , asociated with paresthesia and tingling. The medical history shows a herniated disc surgery in the area L4-L5 (5 years ago), after he was diagnosed with toxic peripheral neurophathy (because of the chronic consumption of alcohol) and episodes of depression.At the clinical examination, we observed pain when palpating the lumbar spinous processes, bilateral contraction of paravertebral muscles, Schober Test= 11,5 cm, Lasegue Test - positive bilaterally, Patrick Test - positive bilaterally. He was recommended to do some blood tests and a MRI. **Discussions :** The aim of this study case is to present the management of a recurrent lumbar pain in a patient who previously had a herniated disc surgery.The recommendation for the patient was to start regular physiotherapy sessions, which showed major improvement with his pain, alongside the pharmaceutical treatment (Doretta- 37,5/ 325 mg - 1 tablet each day for 10 days). **Conclusions:** A neurosurgical consultation was performed in order to assess the opportunity for surgery. Prospective studies should evaluate the effectiveness of this type of treatment in the cases of herniated discs.

Keywords: herniated disc, reccurent lumbar pain, physiotherapy, neurological damage

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TRANSFORMATION OF ESSENTIAL THROMBOCYTHEMIA INTO ACUTE MYELOID LEUKEMIA

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Introduction: Essential thrombocythemia (ET) is one of the myeloproliferative disorders characterized by a rise in the number of platelets. It transforms into Acute Myeloid Leukemia (AML) at the rate of 1-4% amid a follow-up of 7-10 years. AML is a type of cancer that is involved in altering blood and bone marrow. The intent of this paper is to present a case which shows leukemic transformation in ET. **Case Report:** We describe a 65-year-old male, who presented in the Emergency County Hospital Targu Mures with a previous background of essential hypertension and basilic vein thrombosis. His past medical history revealed that since October 2018 he has been suffering from ET. In February 2022 his blood smear confirmed 48% blast cells, dacryocytes and Pelger huet anomaly was evident in polymorphonuclear neutrophils. The peroxidase test was positive. The immunophenotyping was carried out which revealed two populations: myeloblasts (65-70 %) and monoblasts (30-35 %). Further results included markers like CD34: 95%, HLA-DR: 98%, CD117: 98%, CD15: 80%, CD13: 97%, CD33: 99%; CD14: 95%, CD64: 94%, CD11b: 99%, CD36: 94%, CD56: 76%, CD34: 50%, CD10 neg, CD19 neg, CD22 neg, CD1a neg, CD5 neg, CD7 neg, CD41a neg and CD42b neg. Based on the paraclinical data it was deduced that there was change from ET to AML. At the time of diagnosis leukocytes number was normal. **Discussions :** The risk of this shift expands with increasing age, raised platelet count, anemia, the presence of more than 2 somatic mutations. In order to figure out the leukemic transformation of ET, factors like karyotypic anomalies, past therapies with a potential to cause genetic mutations and the cells of bone marrow forming in vitro colonies should be taken into consideration. **Conclusions:** The rare scenario of the transformation from essential thrombocythemia to acute myeloid leukemia has poor prognosis and is usually related to unfavorable cytogenetics. Immunophenotyping is crucial for the ultimate diagnosis.

Keywords: AML, Thrombocythemia, Immunophenotyping

INDUCED PANCYTOPENIA DURING PEG-INTERFERON ALFA 2-A TREATMENT IN HEPATITIS B – A PROGNOSTIC MARKER? – CASE PRESENTATION

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Introduction: Peg-Interferon alfa 2A treatment related bone marrow suppression is a common side effect, especially in patients with baseline cytopenia, and sometimes leads to discontinuation of treatment in hepatitis B patients. This paper aims to identify the possible causes and long-term effects of induced pancytopenia in patients with hepatitis B under specific therapy. **Case Report:** We present the case of a 30-year-old man, diagnosed with hepatitis B, naive to antiviral treatment. His virological status at initiation of treatment showed AgHbs of 5270.32 S/CO, negative Hbs antibodies, Hbe antigen and antibodies, antibodies VHD, ADN-VHB 1.400.000 UI/ml and FibroScan examination F1A0S1, with the exclusion of other co-infections. Peg-Interferon Alfa 2A 180 µg per week administered subcutaneously was chosen as a therapeutic agent in the January-December 2019 period, after verifying all the inclusion criteria according to the National Protocol. Marked pancytopenia was noticed after the first month of treatment and persisted throughout the 48 week-period treatment. **Discussions :** During the 48 week administration of Peg-Interferon 2A , no other side effects were noted. Lowest values registered were platelet count of 65.000/µL, leucocyte of 2890/ µL Discontinuation of treatment was not necessary. Virological status at the end of treatment showed detectable viremia level, negative Hbs antigen and antibodies, resulting in a lack of initial virological response. **Conclusions:** Management of induced pancytopenia during Peg-Interferon Alfa 2a treatment may present as a challenge, and further studies are required to establish a possible association between pancytopenia and lack of virological response.

Keywords: Hepatitis B, Pancytopenia, Virological response, Antiviral treatment

LINKS BETWEEN PHYSICAL ACTIVITY, BODY MASS INDEX, USAGE OF ORAL CONTRACEPTIVES AND PREMENSTRUAL SYNDROME AT A SAMPLE OF ROMANIAN WOMEN

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Introduction: Premenstrual syndrome (PMS) represents a condition which puts in difficulty a high number of women all over the world, starting from the young girls to pre-menopausal women. Physical activity and diet can influence the intensity of the premenstrual syndrome. **Case Report:** To evaluate the link between physical activity, body mass index (BMI), usage of oral contraceptives and the intensity of premenstrual syndrome symptoms from a group of Romanian women. **Discussions :** We found a statistical significant negative correlation between physical activity and the intensity of depressive symptoms (p=0.02, r=-0.12), but there were no other statistical significant associations between lifestyle behaviors,oral contraceptive usage and the intensity/presence of PMS syndrome. **Conclusions:** Physical activity can be associated with the intensity of the depressive symptoms in the context of the premenstrual syndrome. The results show that to the context of PMS should be given more attention by inhancing the awareness for a suitable lifestyle.

Keywords: premenstrual syndrome, oral contraceptives, BMI, physical activity

AMIODARONE INDUCED PULMONARY FIBROSIS

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Introduction: Amiodarone is an efficient type III antiarrhythmic which is used to treat ventricular and supraventricular tachyarrhythmias, but its prescription is often limited by the pulmonary toxicity after chronic treatment. Our aim is to highlight the pulmonary fibrosis as one of the complications associated with the administration of amiodarone. **Case Report:** We present the case of a 67-year-old male patient, with a history of atrial fibrillation, aortic insufficiency III/IV and tricuspid insufficiency I/IV from 2015. The patient was treated with

dabigatran etexilat 75 mg (Pradaxa), amiodarone (cordarone) and perindopril. In September 2019, the atrial fibrillation relapsed and was treated with amiodarone, but in October 2019 he came back accusing dyspnea present on rest and clinically presenting hypoxemia. A high-resolution computed tomography was performed. It showed bilaterally, subpleural honeycombing in the superior half, nodular lesions, linear fibrosis, traction bronchiectasis, reticulation, ground glass opacities, with associated minimal emphysema and bilaterally, subpleural cryptogenic organizing pneumonia foci and diffuse pulmonary infiltrates in the inferior half. The treatment regimen was consequently initiated with corticosteroids and amiodarone discontinuation. Afterwards, the patient had a favorable evolution with 90% oxygen saturation and dyspnea during ordinary activities. In 2020 another high-resolution computed tomography was performed and it revealed a better pulmonary aspect with persistent and reduced ground glass opacities, minimum bronchiectasis associated with minimum fibrosis and bilateral emphysema. **Discussions :** Differential diagnosis of pulmonary fibrosis induced by amiodarone is made mainly with idiopathic pulmonary fibrosis, left ventricular failure or infectious disease. The increase risk of developing amiodarone induced pulmonary fibrosis is directly related to the dose and the duration of the intake. **Conclusions:** Early recognition of respiratory complications induced by amiodarone treatment and intensive treatment can cause a favorable evolution of the patient. Further imaging and functional monitoring (volumes and respiratory flows) is mandatory.

Keywords: amiodarone, pulmonary fibrosis, dyspnea, ground glass opacities

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SEVERE HYPOKALEMIA:A CASE REPORT

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Introduction: Hypokalemia, defined as values below 3.5 mmol/l potassium. It is usually well tolerated, but if it is severe, it can be life threatening. Potassium is an essential nutrient that plays a vital role in cell function, maintaining fluid balance and cell osmolality. Potassium levels are kept within normal limits by the kidneys and most of the potassium ingested is excreted in the urine. **Case Report:** We present the case of a 72-year-old patient, known with stroke, grade II hypertension, surgical unique kidney, urinary tract infections, who presents to the UPU with:abdominal pain, nausea, marked physical asthenia. One week before the presentation at the UPU, the patient had constipation, which is why she took laxatives, followed by diarrhea. Laboratory tests show a serum sodium value of 140 mmol/l, serum potassium with a value of 1.7 mmol/l, corrected to 3.11 mmol/l by administration of 210 mEq KCL in UPU, then serum potassium decreasing to 1, 99 mmol/l. Paraclinical investigations revealed various pathological entities such as: two adrenal adenomas with dimensions of 21mm on the right side and 22mm on the left side, accessory spleen with dimensions of 10mm. Thyroid ultrasound: Thyroid with preserved contour, with volume within normal limits. Urine test showing normal values. Negative tumor markers. Upper digestive endoscopy showed atrophic gastritis with gastric polyps. Following the nephrological consultation, a calprotectin of 1300 micrograms/g was identified. **Discussions :** Following the tests performed to establish the treatment regimen and its support, the potassium values were normalized, a rhabdomyolysis syndrome was remitted and the renal function was preserved. A pneumonia, urinary tract infection and mesenteric paniculitis diagnosed during CT examination were also associated with it. **Conclusions:** The patient will return in the next few weeks to continue the investigation. The renal function and the hemoleukogram will be monitored on a monthly basis, and will return by appointment in order to perform the colonoscopy with the preparation under the control of the ionogram by continuous hospitalization.

Keywords: Hipokalemia, Rhabdomyolysis, Calprotectin

SEVERE LUNG DAMAGE CAUSED BY COVID-19: A CASE REPORT

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Introduction: Since its first appearance in December 2019, COVID-19 has spread rapidly throughout the world and poses a serious threat to public health. It is capable of causing mild to severe infections and may lead to acute kidney, cardiac and liver injury. These organ failures may be associated with high fever, anorexia, myalgias and diarrhea. Although, respiratory tracts are the main sites of entry for SARS-CoV-2 into the system, resulting

pneumonia as the most frequent symptom. Acute lung injury may be followed by pulmonary fibrosis and longterm impairment of lung function, with compromised quality of life, if not treated in time. **Case Report:** We present the case of a 51-year-old patient, known with grade II hypertension, hypertrophic heart disease, grade II obesity, accusing exertional dyspnea, cough, fever, drowsiness and vertigo, for 10 days. She appears acutely ill. RT-PCR test for SARS-CoV-2 is performed, with a positive result. Clinical examination shows: heart rate 86 beats per minute, respiratory rate 22 breaths per minute and blood pressure 175/100mmHg. Oxygen saturation is 90% while the patient is breathing ambiental air. Chest radiography shows multiple bronchopneumonic areas as bilateral "ground glass opacities" in the subpleural lung parenchyma. Laboratory tests showed severe inflammatory syndrome, hypokalemia, hypoglycemia and hepatic cytolysis syndrome. After 2 days of monitoring and specialized treatment, the patient's condition worsened, with oxygen saturation of 70% in ambiental air. As a respiratory support system, high-flow nasal cannula (HFNC) oxygen therapy was installed, maintaining the oxygen saturation around 89-90% with gas at flows up to 50L/min. Her lungs did not withstand the first treatment. Therefore she was transfered to the COVID area, intubated and recived mechanical ventilation support. After one month in ICU, her general condition gradually improved with decrease of necessary oxygen and increase of oxygen saturation up to 90% in ambiental air. **Discussions :** After discharge her treatment requested for a portable oxygen concentrator at home. One year later, patient's condition improved and the patient experimented on her own why the only way for a good immune system is vaccination. **Conclusions:** Patients with chronic health conditions such as diabetes mellitus, cardiovascular disease and obesity are more likely to become critically ill from Covid-19 and can easily die, if not intervened in time.

Keywords: HFNC, RT-PCR, COVID-19

HODGKIN’S LYMPHOMA – THE UNPREDICTABLE PATH FROM DISEASE TO REMISSION

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Introduction: In this presentation, we will emphasize the various treatment options that are now available in the medical industry, with the goal of extending survival, improving quality of life, and possibly curing stage IV Hodgkin's disease. **Case Report:** We discuss the case of a 22-year-old patient who was brought to a pediatric hospital and diagnosed with stage IV Hodgkin's disease with nodular sclerosis at the age of 15 in 2014. Multiple incomplete treatments were given, and cytostatic medicine was changed improperly, all without adhering to international medical guidelines. This way, only 2 cycles of OEPA, 5 cycles of COPP, and 3 cycles of ABVD were administered. In 2016, after a relapse, he is admitted to the Haematology Clinic as an adult, where a clinical exam finds a 1 cm laterocervical adenopathy and a microscopic examination reveals the presence of Reed-Sternberg cells. He has an unfavourable evolution and undergoes 6 cycles of ABVD. After a one-year remission phase, the patient is yet again diagnosed in 2017 following a lymphonodular biopsy. He receives two salvation cycles, type DHAP, and his stem cells are harvested for an autologous transplant. He received six salvation cycles in all, with the transplant taking place following a BEAM-type treatment. After a one-year remission period, a PET-CT scan in 2019 reveals the presence of residual disease, prompting the implementation of a new treatment plan that includes 16 cycles of Brentuximab, anti-CD 30 monoclonal antibodies. After a routine PET-CT scan at the beginning of 2021, a relapse is discovered. The treatment is altered one last time, with the patient having been on Nivolumab for the last six months. **Discussions :** Currently, the patient is continuing his treatment with Nivolumab, his evolution being a steady, favourable one, despite the generally poor prognosis of stage IV Hodgkin's disease and its initially incomplete treatment. **Conclusions:** As a result, we emphasize the necessity of numerous treatment options, including autologous stem cell transplantation, which all give patients with advanced Hodgkin's disease a realistic chance at survival and, in some fortunate circumstances, even a cure.

Keywords: Hodgkin Disease, Autologous Stem Cell Transplant, Reed-Sternberg Cells

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YELLOW NAIL SYNDROME

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Introduction: Yellow nail syndrome is a rare disorder that causes nails and toenails to turn yellow. It is due to the accumulation of lymph under the nails. It affects people who are over 50 years. People affected by this disease

may evolve pulmonary and lymphatic complications. This paper aims to present a case of a patient with yellow nail syndrome. **Case Report:** We describe a 71-year-old female who came to the Emergency County Hospital Târgu Mureș in 2018 presenting the following chief complaints: moderate dyspnea on effort and coughing. Bilateral pleurisy was discovered and mostly evacuated. The patient had pericarditis of medium quantity. On physical examination, she was slightly confused but hemodynamically and respiratory stable. The treatment included right thoracocentesis in local anaesthesia where 1100 ml of fibromatous fluid was drained. Lymphedema was also noted on the lower limbs. In 2019 the patient presented with basal and bilateral pleurisy. She developed renal lithiasis on the right side and renal cysts on the left side. A giant benign uterine tumor and laryngeal hypertrophy were also observed. The patient later developed yellow nails on both hands and feet in 2022. **Discussions :** Clinical and paraclinical examinations revealed a rare genetic disorder: yellow nail syndrome. The nail discolouration ranges from pale yellow to green. According to the data available in scientific literature pleural effusion is found in 14-46% of patients. The fluid is usually bilateral and can be milky, purulent, or serous. In 29-80% of cases, lymphedema may be the first sign of the disease. It involves the lower limbs and is bilateral. **Conclusions:** The recommended treatment was a hyponatraemic diet, Vitamin E, and zinc pills. In addition to that, vaccines against the flu and the pneumococcal vaccine were recommended. Therapeutic Octreotide or Corticosteroids (after immunological tests), respiratory exercises, physiotherapy and Ibandronic acid were included as part of the treatment. To conclude, lymphatic involvement explains discolouration in nails, pulmonary involvement, and lymphedema, which is the triad associated with yellow nail syndrome.

Keywords: Yellow nail syndrome, lymphedema, pleural effusion, yellow nails

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RECURRENT URINARY TRACT INFECTIONS IN A CHILD WITH COMPLEX URINARY TRACT MALFORMATIONS

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Introduction: We present the case of a three-year-old male patient with a history of repeated hospital admissions for urinary tract infections (UTIs) since birth, and first presentation with sepsis at the age of 17 days. UTIs are infections involving the urinary tract, affecting the upper or lower urinary system. Risk factors include anatomical abnormalities of the urinary tract, such as vesicoureteral reflux (VUR) and ureteropelvic junction (UPJ) obstruction. **Case Report:** In the presented case, the mother reported only few drops of urine leaking from the urinary meatus. Upon admission, urinary catheterisation was attempted but failed. After noticing urinary outflow from the anal orifice, urinary catheterisation was successfully performed through the anus leading to suspicion of an ectopic opening of the urinary system. The diagnosis of a urethral duplication (Effman type 2A-II Y-type) was established by MRI. Additionally, the patient presents left UPJ stenosis causing massive hydronephrosis, treated with pyeloplasty and nephrostomy; right double kidney, hydronephrosis and megaureter, treated with ureterostomy; bilateral VUR diagnosed by cystourethrography; multiple congenital heart defects and atypical phenotypic features, such as poly- and syndactyly and specific facial characteristics. Genetic evaluation did not reveal any abnormalities. Furthermore, a progressive decline in left renal function was noted on scintigraphy (latest value of split function: L 18,5%, R 81,5%). The patient is managed with antibiotic UTI prophylaxis. Correction of the VUR is planned for the near future. **Discussions :** Urethral duplications are rare anomalies of the urinary tract classified according to the Effman classification. Effman 2A-II Y-type describes the presence of two urethras, both originating from the bladder neck. Typically, one functional urethra travels towards the urinary meatus and a second stenotic urethra opens into the rectum. In the presented case, the accessory urethra opening in the rectum is more functional than the urethra with normal anatomical trajectory. Urethral duplication is more frequently present in males and may be associated with other anomalies, in this patient UPJ stenosis, double kidney, VUR, poly- and syndactyly and congenital heart defects. Other cases in literature were treated by urethroplasty, whereas this case is being managed with antibiotic UTI prophylaxis, primarily for the VUR. Surgical correction of the urethral anomaly is not planned at this time due to the atypical functional configuration of the urethras and the possible risk of losing continence. **Conclusions:** The association of recurrent UTIs and urinary outflow from the anus should lead to the suspicion of a possible urethral duplication and warrants thorough investigation.

Keywords: urinary tract malformations, urinary tract infection, vesicoureteral reflux, urethral duplication

SQUAMOUS CELL CARCINOMA IN A PATIENT WITH A CHRONIC VENOUS LEG ULCER

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Introduction: Cutaneous Squamous Cell Carcinoma (SCC) is a malignant lesion arising from the epidermal keratinocytes, resembling the spinosum layer of the epidermis. SCC is the 2nd most common form of skin cancer and is more prevalent in males. The tumour presents as a rough hyperkeratotic and invasive lesion which may progress to ulceration. Microscopically, atypia, frequent mitosis, keratin pearl formation and intercellular bringing may be seen. SCC is typically positive for p40, p63, EMA, CK5/6. CTKAE1-AE3 is generally positive for all carcinomas. **Case Report:** A 76-year-old patient presented to the Mures County Hospital's Dermatology Department, in September 2021 accusing mild haemorrhage of a chronic ulcer located in the right pretibial region. The patient did not previously seek medical advice regarding her diabetes. A biopsy was taken and analysed. Upon microscopical examination, using a Hematoxylin-Eosin (HE) stain, tumoral proliferation of ovoid/polygonal shaped cells with a pale-eosinophilic cytoplasm, enlarged-pleomorphic nuclei with hyperchromatic and prominent nucleoli was observed. Multiple mitosis events were identified. Immunohistochemistry (IHC) was performed to confirm the epithelial origin of the tumour and exclude melanoma, being the most important differential diagnosis. The stains used provided the following results: CTK AE1/AE3 (PCK26) was intensely positive, SOX-10 (SP267) and Melan A/MART1 (A103) were negative. The patient was diagnosed with a poorly differentiated SCC, developed due to the presence of a chronic skin ulcer. The patient presented again in December 2021 for re-excision and lymph node biopsy. Microscopical examination showed normal lymphatic structure. The skin sample presented a tumoral proliferation with the same histological aspect described previously. The lateral resection margins were infiltrated by the tumoral cells. The patient received the same diagnosis. The patient most recently presented in February 2022 with a poorly differentiated SCC, 4 segments were assessed. Microscopically, the same structures were observed. The lateral and profound resection margins were infiltrated. **Discussions :** Chronic venous leg ulcers (VLU), especially non-healing long-lasting ulcers, are among the risk factors for SCC. The chronic VLC in combination with the patients impaired immune system and ultraviolet exposure most likely resulted in the SCC. **Conclusions:** Unless properly excised, ensuring that the mass is contained within the resection margins, the tumour will continue to proliferate. When suspecting poorly differentiated SCC, melanoma should also be considered due to their similarity in appearance. Follow up appointments should be ensured due to the aggressive nature of SCC and potential for metastasis.

Keywords: Squamous Cell Carcinoma, Chronic Venous Leg Ulcer, Immunohistochemistry, Histopathology

BASOSQUAMOUS CELL CARCINOMA, A RARE MALIGNANT ENTITY OF THE SKIN

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Introduction: Basosquamous carcinoma (BSC), also referred to as metatypical basal cell carcinoma, is considered an aggressive, yet rare, variant of basal cell carcinoma (BCC). The tumor features characteristics of both BCC and squamous cell carcinomas (SCC), together with transitional zones in between. BSC most commonly presents in fair-skinned, elderly males. Post-excision recurrence rates range between 12% to 51%. **Case Report:** An 83-year-old male patient presented to the surgical department with a tumoral mass on his arm, which developed in the past two years. The patient has an extensive history of tumoral formation. He was first diagnosed by the Mures County Hospital's Pathology Department in 2018 with SCC. Since the initial diagnosis, the patient also presented with recurrent SCC, keratoacanthoma and multiple subtypes of nodular BCC. Surgical excision and analysis of the sample was performed. Upon gross examination, a tumoral mass with a nodular aspect was observed. Solid-white and cystic areas were seen on section. Microscopical examination, using Hematoxylin-Eosin (H&E) staining, revealed a tumoral proliferation with two tumoral-cell populations. The 1st population presented a solid-cystic aspect and was composed of basaloid cells with a reduced basophilic cytoplasm and large-hyperchromatic nuclei. In the periphery, a palisading arrangement was observed. The 2nd population was composed of squamous cells with well-defined cellular limits, abundant pale-eosinophilic cytoplasm, large-vesicular-hyperchromic nuclei and no prominent nucleoli or necrosis. Mitotic activity was present. Immunohistochemistry (IHC) was performed and yielded the following results: p40 (BC28) intense positive

reaction, EMA (E29) negative and BCL2 (124) focally positive. The patient was diagnosed with BSC. **Discussions :** BSC proliferation is likely due to the patient's age, gender, skin-pigmentation, frequent ultraviolet exposure and apparent predisposition to frequent tumoral formations. BSC presents a risk for metastasis and therefore, differential diagnosis should be performed with other variants of BCC and SCC. As BCC is negative for EMA and SCC yields a positive reaction for p40, p63 and EMA, IHC is essential when assessing tumoral lesions of the teguments. CTKAE1-AE3 is generally positive for all tumors deriving from the epithelium. **Conclusions:** BSC is a comparatively rare variation of BCC and cannot be differentiated macroscopically from other types of BCC, therefore histopathological differentiation is of utmost importance. Due to its low prevalence, BSC was an unexpected diagnosis in this case. The recurrence of the previously diagnosed SCC would have been far more likely.

Keywords: Basosquamous carcinoma, Metatypical carinoma, Epithelial neoplasm, Skin

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MANAGEMENT OF A RARE CASE OF UPPER GASTROINTESTINAL BLEEDING

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Introduction: The upper gastrointestinal bleeding (UGIB) is a life-threatening emergency, divided into non-variceal and variceal cause. Variceal UGIB is caused by an increased of the portal pressure due to cirrhosis or non-cirrhosis liver. The most common cause of variceal UGIB is liver cirrhosis but non-chirrotic portal hypertension (NCPH) should be considered as well. Methotrexate, a drug used to treat Rheumatoid Arthritis (RA) is mentioned among the etiological factors for sinusoidal NCPH development. As a direct cause of the high gradient pressure, numerous medical complications can arise. **Case Report:** Our case report is a 71-year-old patient, with occasional alcohol consumption. The patient is known with RA since 2004, for which Methotrexate, Leflunomide, and Prednisone were prescribed. The patient presented himself with UGIB, and, consequently, melena. Laboratory analysis has revealed: severe anemia, thrombocytopenia, leukopenia, negative serology for viral and autoimmune hepatitis. Gastrointestinal endoscopy highlights an esophageal varices of II/III degree with red wale sign, portal hypertensive gastropathy. Abdominal echographic examination shows splenomegaly and a minimal hepatic steatosis. Fibromax does not reveal hepatic damage (FibroTest-F0). A CT scan was performed showing a smooth liver without irregularities, minimal hepatic steatosis, splenomegaly and portal hypertension, without signs of portal thrombosis. A hematological clinical examination was performed and bone marrow biopsy shows no lymphoproliferative phenomena. There is a possibility of Felty Syndrome, albeit there is no clinical criteria or severe agranulocytopenia. A diagnosis of NCPH is highly possible, albeit the histopatological exam, a major criteria for positive and differential diagnosis with other chronic liver conditions (alcoholic and dysmetabolic diseases) is missing. It wasn't able to conduct a hemodynamic test study to evaluate HVPG (hepatic venous pressure gradient), that would help the team to sustain the diagnosis. Red cell mass, iron, and vitamin therapy were administered to the patient. The endoscopic ligature of varices was subsequently performed successfully. **Discussions :** The presence of the Seropositive RA, treated with Methotrexate in a patient with UGIB, without liver cirrhosis, will often indicate a NCPH, an affection which does not impair the liver function but only alters the venous pressure gradient. The diagnosis is usually made by normal liver function tests, abdominal ultrasound, endoscopy, and normal liver histology. Although it cannot be confirmed, the possibility of NCPH is still present, even in the absence of hepatic fibrosis. **Conclusions:** The clinical association of possible NCPH and existent comorbidity such as Seropositive RA does raise numerous important questions concerning the disease's management and patient's well-being.

Keywords: non-cirrhotic portal hypertension, upper gastrointestinal bleeding, rheumatoid arthritis

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PHARMACOLOGICAL TREATMENT OF ASTHMA

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Introduction: Asthma is a chronic inflammatory lung disease defined by recurrent and reversible breathing difficulties. **Case Report:** Between March-April 2022, an prospective epidemiological study was performed interviewing 41 people in Romania, with the purpose of monitoring : the level of awareness and education in

administrating the asthma medication, the level of knowledge of symptom relieving and crisis prevention measures, the therapeutic efficacy and safety of drugs used in the treatment of asthma The questionnaire was anonymous and had 44 mixed grid and descriptive questions. The data obtained were processed on the Google Drive platform, after which the analysis and interpretation of the results was done using Microsoft Excel, throught the Epiinfo7 program. **Discussions :** Of the 41 patients, 54% middle-aged and belonged to the age group adults and the elderly, and 10% were young. 54% of patients were men, and the rest were women, of which 46% come from urban areas and 54% from rurals areas. All participants in this study were exposed to special working conditions, so 41% were exposed to powders with organic or anorganic substances, and 37% were exposed to a humid environment. Patients diagnosed with asthma accounted for 95%, the disease began in 85% of them in adulthood, 7% in adolescence and 7% in childhood. Of the 41 patients, 44% had a history of allergies. 92% of patients follow the treatment, the most used drug was salbutamol (Ventolin), being used by 65% of patients. 90% of the patients surveyed found that their symptoms improved, 93% received information on how to administer the medication, but only 29% had knowledge about aerosol therapy. 73% take their medication in the form of inhalers, and 48% in the form of tablets. 90% of patients responded that they were aware of the measures that could prevent an asthma attack, and 93% received information on how to use antiasthmatic medication from the nurse. **Conclusions:** The present study reveals how the quality of asthmatic patients life can be improved or the disease cured through education and correct information about crisis prevention, effective control symptoms method and suitable anti-asthmatic medication.

Keywords: asthma,, allergy,, anti-asthmatic medication,, aerosol therapy.

MORE THAN WE WOULD HAVE THOUGHT. MYCOPLASMA-INDUCED RASH AND MUCOSITIS.

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Introduction: Mucocutaneous eruptions are rashes which affect both mucous and cutaneous membrane. Considering the history, the physical exams patterns and the etiology, there are different names for these mucocutaneous eruptions, such as erythema multiforme (EM), Stevens-Johnson syndrome (SJS), toxic epidermal necrolysis (TEN), drug reaction with eosinophilia and systemic symptoms (DRESS) and mycoplasma-induced rash and mucositis (MIRM) **Case Report:** A 32-year-old male patient S.F.R. presented in our emergency department with the following signs and symptoms: high fever (38.5° C), altered general wellbeing, signs of conjunctivitis (yellow conjunctival muco-purulent secretion bilateral and inflammation of the sclera) and mucous lesions situated on both the lips and the tongue. After we performed a whole-body examination, we encountered also multiple erythematous lesions in the scrotal region. Based on the signs and symptoms presented, the patient received the following diagnosis: TEN/SJS witch lead to an admission in the hospital and we started the treatment accordingly. **Discussions :** Even though the fever dropped, the lesions located in the oral region decreased and the wellbeing of the patient improved significantly there were still sings of fatigue and erythematous lesions in the scrotal region. Because of this remaining signs we had taken into consideration other possible causes for the erythematous lesions, therefore we solicited the following tests: blood laboratory analysis including serology antibody tests for Mycoplasma pneumoniae and thoracic radiology imaging. The serology test results are the following: Mycoplasma pneumoniae antibodies, IgG positive and Mycoplasma pneumoniae antibodies, IgM positive. Following these results we concluded the case as mycoplasma-induced rash and mucositis. At the two months follow-up the patient still has signs of fatigue, eye discomfort, photophobia and night vision alteration which for he visited a private ophthalmologist where he was diagnosticated with possible iatrogenic conjunctivitis and received local treatment. We solicited another set of blood work including basic metabolic panel and a complete blood count with physiological values and the Mycoplasma pneumoniae antibodies in which case the IgM antibodies are negative and IgG antibodies still positive with a value of 2,02 U/L. **Conclusions:** In conclusion, this rare case emphasize de importance of differential diagnosis and a proper evaluation of all mucosal surfaces, specifically within the head and neck. Furthermore, it teaches us that Mycoplasma pneumoniae infection can be associated with mucocutaneous reactions without pulmonary affectation.

Keywords: mycoplasma pneumoniae, mucocutaneous reactions, differential diagnosis, rare case

CHOROIDAL MELANOMA - FROM VISION TO ACTION – CASE REPORT

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Introduction: Choroidal melanoma represents the most frequent primary intraocular tumor, its malignant character being represented by an abnormal proliferation of melanocytic cells. **Case Report:** The case of a 45-year-old female patient is presented, clinically diagnosed with choroidal melanoma in the right eye along with retinal detachment. The ablation of the eyeball was performed by sectioning the optic nerve. The eyeball was then sent to the pathology department at the Clinical County Hospital Mures for histopathological diagnosis. Grossing revealed a right eyeball with an anteroposterior and transverse diameter of 20mm. On the lateral wall of the posterior part, a grayish ovoid shaped tumor was found with multiple dark-brownish spots at the periphery, distant from the optic nerve. Microscopically, a tumor cell proliferation was observed, composed of round-oval shaped cells, with large round nuclei and a strong eosinophilic cytoplasm with an advanced mitotic activity. Immunohistochemically, the tumor cells were positive for anti-S100,anti-SOX10,anti-MELAN A/MART1,anti-HMB45 antibodies. Using CD31 and CD34 markers, an increased micro vascular density was highlighted at the level of tumor proliferation. Microscopically, we notice the absence of tumor extinction of the ciliary bodies, lens and optic nerve and also the absence of extraocular extension, but we notice a minimal macrophagic tumoral infiltration (CD68+) as well as the detached retina phenomenon. **Discussions :** Taking into consideration the microscopic appearance and the immunohistochemical profile of the examined sections, the diagnosis was choroidal melanoma stage pT3aNxMx L0V0R0, which leads to secondary retinal detachment. **Conclusions:** In conclusion, we emphasized the importance of the histopathological diagnosis and the immunohistochemical profile for the diagnosis of choroidal melanoma in order to establish an adequate and personalized oncological treatment for the patient, increasing the quality of life and a better prognosis for the patient.

Keywords: melanoma, retinal detachment, ciliary body, quality of life

ONCOLOGICAL CHALLENGE: PEDIATRIC ALVEOLAR RHABDOMIOSARCOMA – CLINICOPATHOLOGICAL FEATURES AND PROGNOSIS

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Introduction: Although alveolar rhabdomyosarcoma (RMS) is a very rare disease, it is the most common soft tissue malignant tumour in children, with increased predisposition to metastases. The risk factors for the development of RMS are still unidentified. Despite the progress made in diagnosis and treatment, it remains, for some patients, an important cause of morbidity. **Case Report:** A 13-year-old female presented in the paediatric unit with a 1-month history of pain and tumefaction of the inferior left limb. On initial evaluation, a deep vein thrombosis in the external inguinal vein was diagnosed and remitted. Closer examination revealed persistent inguinal adenopathy and a sentinel lymph node biopsy was further conducted, which confirmed the presence of an alveolar rhabdomyosarcoma metastasis. Due to associated claustrophobic disorder, a full-body MRI scan was belated performed, which delayed disclosing the primary tumour. Eventually, left gluteal stage IV alveolar RMS was detected, alongside multiple metastasis (orbital, perihepatic, pancreatic, inguinal, genital). Therapeutic approach for this neoplasm was immediately initiated with multimodal treatment consisting of 10 cycles of chemotherapy with anthracyclines, ifosfamide and external radiotherapy to the remaining tumor sites after chemotherapy. The treatment lasted almost a year during which the patient suffered from depression. At the end of first line chemotherapy a good partial response was confirmed using PET-CT, and metronomic chemotherapy was started. After 3 cycles disease regression was registered, the MRI results revealing new widespread metastases located in the lungs, vagina, anus, urethra and perineum. Unfortunately, the patient's condition rapidly declined and led to her exitus. **Discussions :** The difficulty in making and confirming the diagnosis brings light on this specific case: newly diagnosed deep vein thrombosis in children should rise the suspicion of an underling malignancy. Moreover, because of the underlying claustrophobia and the absence of an anesthesiologist in the local pediatric center to perform the scan under sedation, the staging was belated performed. The need to start chemotherapy with increased liver and pancreatic enzymes due to the fast progression of the disease is also a rare feature. **Conclusions:**

The complexity of this case relies in the therapeutic approach with combined radiotherapy and chemotherapy treatment for a claustrophobic patient with extensive metastases, in the context of an alveolar rhabdomyosarcoma. Despite the initial favourable evolution, the special pattern of relapse shows the unpredictability of this disease, more research being needed in order to improve the outcome.

Keywords: alveolar rhabdomyosarcoma, adenopathy, claustrophobic disorder, widespread metastases

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DIAGNOSTIC CHALLENGES OF ST ELEVATION DURING THE COVID-19 PANDEMIC - NEVER FORGET THE DRUGS!

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Introduction: ST segment elevation is most often associated with STEMI which most of the time happens because of atherosclerosis. Occurrence of ST segment elevation in a young patient is a rare discovery and should be approached carefully considering the differential diagnosis especially during the COVID-19 era. **Case Report:** We present the case of a 19-year-old male patient brought to the "Nicolae Stanicioiu" Heart Institute Cluj-Napoca by ambulance due to severe chest pain along with cephalgia, myalgia and fever - 40 ^{o}C. The patient is a chronic smoker, without any other relevant medical conditions except a recent history of erythemato-pultaceous angina. On clinical examination, he presented: fever, tachycardia (128 bpm) and a congested, erythematous pharynx with white deposits. ECG showed ST segment elevation from V2 to V8. Laboratory findings indicated an inflammatory syndrome and elevated markers of myocardial necrosis. The patient was negative for SARS-CoV-2, dismissing the possibility of COVID-19-related cardiovascular complications. Moreover, he was vaccinated with both doses a few months ago, making mRNA-based COVID-19 vaccine - related myocarditis highly unlikely. Because of the recent history of the erythemato-pultaceous angina, cardiac complications as a result of rheumatic fever are likely candidates for the cause of this cardiovascular episode, so treatment with ampicillin-sulbactam and clindamycin was initiated. An echocardiogram was also performed which excluded pericarditis, and a CT angiography together with a cardiac MRI ruled out myocarditis. The patient's condition improved under the antibiotic treatment, with a strong decrease of inflammatory markers and with complete remission of all symptoms in spite of the microbiologic results being negative. After reevaluating the patients history, he admitted the use of illicit drugs of multiple kind, including cocaine, leading to the final diagnosis of drug-induced coronary vasospasm. **Discussions :** This case is a sad example of prolonged drug use in teenagers. The patient was already a heavy smoker and substance abuser by the age of 19, which showcases the level of addiction in high school and the possible tragic effects it can have. It may have also been tempting to attribute these symptoms to COVID-19 cardiovascular complications or vaccination but there was no clear evidence of that. Also, cardiac complications of bacterial pharyngitis were ruled out due to the negative microbiology results. **Conclusions:** Differential diagnosis must be conducted carefully during COVID-19 pandemic. Health education programs should also be better emphasized.

Keywords: ST elevation, Differential diagnosis, COVID-19, Substance abuse

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ONE IN A MILLION: A FANTASTIC HYPOPLASTIC LEFT HEART SYNDROME ASSOCIATED WITH TRANSPOSITION OF GREAT ARTERIES

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Introduction: Hypoplastic left heart syndrome (HLHS) is a congenital defect of the heart that develops during the pregnancy due to unknown causes. This syndrome is usually associated with an underdeveloped left ventricle or an ascendent aortic portion, an underdeveloped mitral or aortic valve and it is also associated with atrial septal defects. HLHS can also be associated with transposition of the great arteries, these two combined make one of the rarest and deadliest congenital heart syndromes. This paper aims to present the successful management of an unusual complex cyanotic congenital heart defect, a hypoplastic left heart syndrome associated with the transposition of great arteries. **Case Report:** We present the case of a male newborn patient who developed after 24 hours after birth a severe respiratory failure with generalized cyanosis with an oxygen saturation <90%, tachypnea, low BP, and low peripheral pulses. After several investigations, echocardiography confirmed the diagnosis of a functionally univentricular heart with transposition of the great arteries. Multiple surgeries that had to

be done in a particular order were performed in order to provide a good heart function. The three-stage surgical correction consisted of: stage I- Norwood procedure (performed while the patient is a neonate), stage II- Glenn procedure (performed at age of 6 months), and stage III- Fontan procedure (performed after 4 years). All three of the procedures were performed successfully. After Fontan surgery, our young patient developed edema caused by a complication called protein-losing enteropathy due to the elevation of the central venous pressure. In order to prevent heart failure, diuretics and supplemental proteins were administrated. **Discussions :** The patient undergoes a complete cardiac examination every year in order to ensure proper cardiovascular development. The patient is now 12 years old and suffers from no other cardiovascular disease according to his last checkup. **Conclusions:** Cardiovascular anomalies are an important cause of infant death, reason why pregnant women should be aware of the importance of regular pregnancy monitoring. Despite rigorous examination, certain abnormalities can be undiagnosed by the gynecologist, thus sometimes both the survival rate and the living standard of the newborn will depend on the surgical correction. As well, proper anticoagulant medication with a correct diet and a large variety of properly associated cardiologic drugs are mandatory for life.

Keywords: hypoplastic left heart syndrome, transposition of the great arteries, protein-losing enteropathy

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MULTIPLE MYELOMA WITH MULTIPLE ORGAN DYSFUNCTION AND CARDIAC AMYLOIDOSIS SUSPICION

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Introduction: Multiple myeloma ia a plasma cell disorder defined by a clonal proliferation of cells secreting a homogeneous plasma protein with monoclonal character, composed either of kappa or lambda light chains. The amount of paraprotein produced by the plasma cells proliferation and immunodeficiency give the clinical and biological features of the disease. **Case Report:** We present you the case of a 45 year old woman that presented herself at the haematology clinic with general altered state, fatigue, diffuse abdominal pain and bones pain. Clinical and paraclinical investigations were proceeded.Bone marrow biopsy showed an ifiltration of over 30% with lymphoblasts , bones radiography showed multiple bones tumoral lesions and immunological tests were high for IgG (2095mg/dl) , all these led to multiple myeloma diagnosis and initiation of chemotherapy following the VCD protocol. Further an echocardiography is performed and presents cardiac amyloidosis-like pathological changes that led to left ventricle diastolic dysfunction with high filing pressures, dilatated atriums, severe tricuspidian regurgitation, mitral hyperechogenic valves and thickened tendionous cords with regurgitation and inefficient right ventricle. The insufficient right hearth led to congestive enlargement of the liver that caused cytolytic syndrome that led to cholestasis and jaundice. After a few months of chemotherapy with a slow evolution the pacient was sent for treatment in Germany. She is now back in our observation with an improved general state but with no signs of remission. **Discussions :** The clinical features of the multiple myeloma are set by the cell proliferation. The suspicion of amyloidosis can be confirmed if the hospital has the possibility to perform organ biopsy , wich in our case is the hearth and liver but this would expose the pacient at great risk because of its fragile general state. In the multiple organ failure the most important is the efficient management of the multiple myeloma, for example in secondary cardiac amyloidosis the conventional heart failure treatment tends to have a poor response in this case the underlying disease has to be addressed. After obtaining remission of the malignant disease a cardiac transplant would be an ideal option followed by autologous stem cell transplant in whithin 6-12 months. **Conclusions:** Early diagnosis of the multiple myeloma is the best option to get the best possible outcome, as it allows for a larger range of therapeutic options.

Keywords: amyloidosis of the heart, Heart transplant, multiple Myeloma, autologous stem cell transplant

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MULTIPLE MYELOMA: THE PATIENT’S INFLUENCE ON THE TREATMENT

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Introduction: Multiple myeloma is a haematological malignancy involving monoclonal proliferation of plasma cells. What is specific about these clones is the production of monoclonal immunoglobulins called M proteins, which are discovered through electrophoresis, and are considered the serological markers of choice for diagnosis and monitoring. **Case Report:** We present the case of a 57-year-old woman, who was admitted in 2010, with intense,

diffuse bone pain and adynamism, and was diagnosed with multiple IgG type myeloma, stage III/B. Since the patient was eligible for autologous stem cell transplant, an induction treatment was initiated which consisted of 4 rounds of VCD and remineralizing treatment with Zometa, but it was discontinued due to peripheral neuropathy and replaced with VAD. After 4 rounds, mobilization and harvesting of stem cells followed. After 2 more rounds, in July 2011, the stem cell transplant was performed, after the patient was administered the standard conditioning regimen with Melphalan 200mg/sqm iv., with good evolution. Due to a relapse in September 2011, a treatment with Darzalex was attempted, but it was stopped because of the appearance of the shingles and later, refused due to the patient's intolerance. The recurrence of severe bone pain led to the resumption of the treatment with 6 rounds of modified VAD (with Alkeran), with a favorable evolution. Between 2015 and 2018, the patient was in remission and only underwent a remineralizing treatment with Zometa. In October 2018, due to another relapse, the treatment with the Triple Therapy (Ixazomib, Dexamethasone and Lenalidomide) was resumed, with a slow but favorable evolution, followed by a remission period. Because of an accident in 2021, the patient suffered multiple rib fractures and vertebral compressions which needed orthopedic treatment - external fixation with corset, mobilization and medical gymnastics. Due to the bone marrow infiltration of more than 20% underwent after the accident, the treatment is resumed according to the modified VAD type cure **Discussions :** Currently, the patient is continuing her treatment, with a steady, slow, favorable evolution, even in the context of the accident she suffered. It is a complicated case due to the need for multiple adaptations, cancellations and modifications of the elected medication plan, as this is a personalized treatment. **Conclusions:** The importance of developing new treatment options becomes evident, as they allow prolonged life expectancy and ensure higher quality of life. Although multiple myeloma has always been given a reserved prognosis, it is presently becoming curable.

Keywords: multiple myeloma, M proteins, personalized treatment, autologous stem cell transplant

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LONG-TERM MANAGEMENT OF THERAPY, RECURRENCES AND COMPLICATIONS IN A PATIENT WITH INVASIVE DUCTAL CARCINOMA - A CASE REPORT

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Introduction: As the second most common malignancy in women, breast cancer usually presents as invasive ductal carcinoma. Even after successful treatment, approximately 40% of patients experience recurrences, whose management constitutes a challenge for them and clinicians alike. **Case Report:** We are presenting the case of a now 70 year old woman who was diagnosed with G3-IIA, pT2N0 invasive ductal carcinoma in February 2008. Left radical modified mastectomy was performed, after which she was prescribed adjuvant chemotherapy and a five year-long SERM therapy regimen.The patient was monitored through regular serum marker measurements and radiologic studies, which encouragingly suggested no sign of recurrence for nine years, until November 2016, when a significant increase in the former was noticed and correlated with a newly-developed left parasternal soft tissue lesion. PET-MRI and PET-CT were highly suggestive of malignancy, also detecting mediastinal adenopathy. Excisional biopsy of the superficial nodule confirmed it, and treatment with an aromatase inhibitor was initiated. Nevertheless, in March 2017, another recurrence was detected in the same area, this time with invasion into the sternum and the second rib. The treatment of choice was excisional biopsy, followed by radiotherapy. After three years of stationary disease, March 2021 marks another serum marker increase. Progression in size of the aforementioned mediastinal adenopathy is visible on CT scan, along with a vertebral body lesion, which bone scintigraphy deems suspicious of malignancy. An estrogen antagonist is chosen as the next line of hormonal treatment, in association with a CDK 4 and 6 inhibitor. Screening revealed the patient's inactive HBV carrier status, which subsequently led to the reactivation of her Hepatitis B in August 2021, and an ensuing hepatic lysis syndrome, which eventually subsided under supportive hepatoprotective treatment. The patient now has an excellent performance index (ECOG 0) and is awaiting radiologic re-evaluation. **Discussions :** Since her diagnosis, the patient has frequented at least five medical centres in Romania, Germany and Turkey. While this can be advantageous in terms of diagnostic and treatment options, someone with her pathology could actually benefit from more continuity in healthcare. **Conclusions:** As complex of an endeavour as it is, long-term management of breast cancer can provide satisfying results, especially thanks to the various therapeutic methods available nowadays. Recurrences, which are to be expected, should be discovered promptly through serology and imagistic studies, and managed through a personalised approach.

Keywords: breast cancer, invasive ductal carcinoma, cancer recurrences, long-term survival

PAPILLOMA VIRUS – PREDISPOSING FACTOR IN PENILE TUMORS

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Introduction: Human Papilloma Virus (HPV) infection is one of the most widespread sexually transmitted infections globally, a pathology frequently encountered in the female and male genital tract, with or without clinical lesions. **Case Report:** The Human Papilloma Virus is a DNA virus with oncogenic potential. It contains a DNA from about 8000 nitrogenous bases. It has a specificity for epithelial cells/ keratinocytes. HPV is limited to the squamous epithelium and is transmitted through sexual contact. The lesions caused by HPV have a major impact on the quality of life, as patients report feelings of depression, anger, shame and in addition the quality of sexual life is significantly negatively affected, associating an increased risk of anxiety and sexual dysfunction compared to the rest of the population. **Discussions :** The annual incidence shows a rate of new infections of 6.2 million with different strains of HPV. The average age of incidence is 24 years in women and 25-29 years in men. The impact of HPV infection is huge globally both in terms of medical costs and in terms of the quality of life of affected patients.Among the risk factors of infection, the most important ones are represented by the number of sexual partners, the absence of circumcision, a history of other sexually transmitted infections. The diagnosis of HPV infection in men is mostly a clinical one, requiring biopsies and laboratory paraclinical explorations. Subclinical infection is 10 times more common than symptomatic infection. Some of these lesions clinically inaparent for a considerable period of time turn into warts. Most commonly, samples are taken from the penile body, glans, foreskin, by dabbing and biopsy. The identification of viral DNA through in situ hybridization from biopsy samples, performed together with the visual inspection after acetic acid application, provides a more accurate interpretation of a positive male test, helping to differentiate a productive infection from HPV contamination from the partner. The most effective treatment in the USA and Europe is represented by two licensed vaccines: CERAVIX and GARDASIL which offer a protection of 70% of all HPV-associated neoplasia. **Conclusions:** HPV infection is the most common sexually transmitted viral infection in both sexes. Early treatment of genital vulgar warts is important in the prevention of ano-genital neoplasia in men.

Keywords: Human Papilloma Virus, oncogenic potential, sexual dysfunction

THE MANAGEMENT OF A MULTIMORBID CHRONIC HEART FAILURE PATIENT WITH SPLENOSIS

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Introduction: Heart failure is often considered a syndrome and not a disease, due to all the factors that shape its course of development. With the advanced treatments that are available nowadays, the prognosis of heart failure has drastically improved, however, the mortality rate is as high as 50% and only 5 years after being diagnosed. The main causes of heart failure are ischemic heart disease (35-50%), dilated cardiomyopathy (30-34%) and hypertension (15-20%), which sometimes overshadow other rarer causes of heart failure, such as arrhythmias, haemochromatosis, infections and smoking. **Case Report:** This presentation showcases a 47-year-old Caucasian male patient with a history of trauma injuries followed by a splenectomy (1992), who presents to our clinic with three major complaints: fatigue, dyspnea and peripheral edema. Upon a closer look, the patient's history reveals the following key elements: active smoker with a deep vein thrombosis of the right femoropopliteal veins (2007), followed by a pulmonary embolism in the same year, Antiphospholipid syndrome, portal hypertensive gastropathy and uncomplicated esophageal varices (2019). The patient has been treated accordingly for the aforementioned pathologies. It is worth noting that following the PE event, the patient has not been anticoagulated between 2007-2018. Upon physical examination, it is observed that the patient's body mass index and blood pressure are withing physiological limits. Peripheral edema, hepatomegaly and a loud tricuspid regurgitation murmur are noted. The patient's current treatment consists of oral anticoagulants (Warfarin), Ivabradine, Antidiuretics (Furosemide, Spironolactone) and Theophylline. Upon performing the standard diagnosis workup (ECG, Echocardiography, Chest Angio CT, exercise stress testing and laboratory tests), the following pathologies are confirmed: Severe pulmonary hypertension (group 4), WHO functional class II, chronic pulmonary embolisms, severe tricuspid regurgitation, heart failure with preserved ejection fraction NYHA 2, minor bundle branch block and ventricular

extrasystoles. **Discussions :** Our patient represents a challenge when it comes to choosing an adequate treatment scheme, the target of the therapy being preserving and protecting all affected organs, while also providing a high quality of life. **Conclusions:** Heart failure is encompassing a wide array of other comorbidities, such as hypertension, arrhythmias, thromboembolic events and many others. One always has to treat the patient and not the disease, thus creating a unique scheme of treatment in each case.

Keywords: Splenosis, Heart Failure, Pulmonary Hypertension, Cardiac Arrhythmias

ONGOING MANAGEMENT OF PATIENT WITH HETEROTAXY SYNDROME

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Introduction: Heterotaxy syndrome is a rare congenital defect that involves the malformation and malposition of organs in the thorax and abdomen, cardiac vascular malformations, and asplenia or polysplenia. **Case Report:** This ongoing case study focuses on the 5 year follow up of a 35 year old patient, female, whose initial chief complaints were asthenia, fatigability upon medium effort, and occasional palpitations. The patient is known to have heterotaxy syndrome and complex cardiac malformation which presented with dextrocardia, single atrium, and an interrupted inferior vena cava with continuity on the azygos system. Pulmonary and systemic blood drainage (superior vena cava and suprahepatic veins) lead to the left side of the single atrium present. Transposition of a common atrioventricular canal, small ventricular septal defect. Significant regurgitation of left orifice of the atrioventricular vein. Pulmonary hypertension. Throughout the 5 year clinical evaluation, the patient is hyposthenic with Hippocratic fingers, acrocyanosis, and pectus carinatus, with an audible systolic murmur IV/VI right parasternal and apexian shock found in the 5th intercostal space on the mid-clavicular line. Peripheral pulses are found bilaterally. Paraclinical findings showed initial sinus tachycardia with supraventricular and ventricular ectopic beats and right ventricular hypertrophy, which evolved into paroxysmal atrial fibrillation with a moderate ventricular response. Congestive heart failure NYHA II/III was also described, as well as iron deficiency anemia. Echography highlights hepatic malposition, polysplenia and ptosis of the right kidney. **Discussions :** The management of this patient consists of quarterly hospital admissions, in which a full clinical and paraclinical workup is performed, after which treatment is established depending on the evolution of the patient's status. Currently, the patient receives treatment with endothelin receptor antagonists, phosphodiesterase inhibitors, Beta-blockers, and diuretics, as well as oxygen therapy 16-18 hours/day. (It should be noted that the patient followed a period of anticoagulant therapy within late 2018). Recommendations include avoidance of physical or psychological stress, cold and humid environments, exposure to intercurrent infections and fatty or heavily seasoned foods. Diet should focus on vitamin dense foods, and a minimum of 2 liters of water daily. **Conclusions:** The complex cardiac malformation presented poses great difficulty in finding a balance between lifestyle adjustments and pharmacological treatment that ensure the best quality of life possible. It is important that the patient maintains close contact with the medical team in order to track possible changes and adjust the treatment options in the context of this unique heart failure management.

Keywords: heterotaxy syndrome, dextrocardia, single atrium, heart failure

A LIFE WITH BARDET-BIEDL SYNDROME IN ALL ITS FACETS

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Introduction: BBS is a rare congenital disease with a recessive autosomal pattern. Genetically, both parents are carrier of a mutated gene which can be present on numerous varying chromosomes. In total there are described 21 different genes currently, that could cause the appearance of BBS. Parents that are carrier of a mutated gene are usually not affected and do not present any typical signs and symptoms.The Diagnosis of BBS is generally based by the presence of numerous typical appearances associated with the disease. **Case Report:** The case is a 17-year-old girl who presents delayed neuromotor development since childhood, learning disabilities, nasal speech quality, nocturnal enuresis, obesity (with strict dieting), convergent strabismus, short neck, small ears with normal shape, asymmetrical nose, dental abnormalities (dental crowding, high arched palate), x-cross position of the hands, polydactyly on hands and feet (resolved by surgery at age of 1), syndactyly, epilepsy (since 2009), hypothyroidism (diagnosed and treated with levothyroxine since 2012) and retinous picmentosa (with 10% left

vision).Besides appearances of BBS, she had recurrent UTIs with her first episode of febrile UTI at 4 months. The underlying etiologies are Klebsiella, Proteus and E. coli. To prevent additional UTIs she takes prophylactic therapy and cranberries products precautionary. Congenital urinary tract abnormalities were excluded by imagistic exams.As an infant, she had the condition of PFO (Patent foramen ovale), which resolved by itself without any restrictive conditions.At the age of 13 years, she underwent a surgery for hematocolpos. **Discussions :** In the past there were described some cases of patients with BBS that presented also during time hematocolpos.Hematocolpos is usually associated with vaginal atresia in BBS which is not described in this case.Recurrent UTIs in BBS are related to structural abnormalities. In BBS it is commonly seen that kidneys and/or urinary tract have pathological appearances. This case does not present malformations of the genitourinary tract.Furthermore, an audiometry should be performed for subclinical sensorineural hearing loss.Moreover, McKusick-Kaufman syndrome should be ruled out as both syndromes have clinical overlap and age-dependent features. **Conclusions:** Long term follow-up and close multidisciplinary monitoring are necessary in such cases as there is no therapy to prevent the progressive multisystem involvement of BBS. The only possible therapy is symptomatically.

Keywords: Bardet-Biedl Syndrome, Recurrent UTI, Hematocolpos

GLIOBLASTOMA – HOW ADVANCES IN THERAPY GIVE ONCOLOGIC PATIENTS HOPE: A CLOSER LOOK AT A LONG-TERM SURVIVOR'S TREATMENT

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Introduction: Glioblastoma (GBM), known as a fast-growing and the most aggressive brain tumor, invades the nearby CNS tissue and generally does not metastasize to distant organs. The 2021 WHO novel classification labels this subtype of glioma as grade IV, enclosing only IDH-wildtype tumors and conferring the worst prognosis. **Case Report:** We present the case of a 70-year-old German male patient, one of the only 2% GBM long survivors that underwent a thorough treatment plan. The patient was admitted to the Neurosurgery Department in January 2014, presenting vertigo, nausea, left limb monoparesis and impairment of cognitive function. The final diagnosis established after MRI and biopsy was GBM WHO grade IV, ground-in the frontal lobe, IDH-wildtype, MGMT methylated. The therapy began in April 2014 at the Neurosurgery Department, with a complete tumor resection, followed by the implementation of the STUPP protocol (radio-chemotherapy, 60/2Gy+ Temozolomide and 6 adjuvant Temozolomide 5/23 cycles). A distant recurrence was found in the occipital lobe in January 2017 and was managed as a primary tumor, by similar approach, until October 2017. Two months later, during a tennis match, an epileptic episode occurred, manifesting with hemianopsia. A 3rd recurrence was found in the same spot. The patient refused another surgical intervention and the doctors recured to a re-irradiation (39Gy/3Gy). The 4th recurrence in March 2018 was located around the Corpus Calossum area and managed again with radiotherapy (30/5Gy+ CCNU). The patient died in 08/2018. He was treated with repeated local and systemic therapies and managed to live 5 years with maintained quality of life. **Discussions :** GBM's diverse and adaptable character has been recognized as a major contributor to the poor efficacy of several treatments, including immunotherapies, over the years. Overall survival remains low, and the rate of tumor recurrence remains high, despite therapies that combine excisional surgery, chemotherapy, and radiotherapy. In that aspect, this particular choice of radiotherapy treatment gave this man a new chance, as typically just 25% of glioblastoma patients survive more than one year, and only 5% of patients survive more than five years on average. **Conclusions:** Distant recurrences of GBM may receive maximal therapy similar to primary tumors. Furthermore, repeated radiotherapy for recurrent GBM is feasible (up to a cumulative dose of 100 Gy EQD2) and can ensure local control and prolongation of life.

Keywords: glioblastoma, radiotherapy, STUPP protocol, IDH-wildtype

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CONSERVATIVE MANAGEMENT OF A CASE OF VON WILLEBRAND DISEASE

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Introduction: Von Willebrand disease (VWD) is generated by defficiency of coagulation factor FXII. Clinical

manifestations include recurrent bleeding episodes of variable severity. We present the case of a girl with repeated soft tissue, joint and abdominal bleeding who was treated conservatively. Diagnosis was obtained using special coagulation tests. **Case Report:** A 14 year old girl with history of multiple surgical procedures (femur fracture, appendicitis, epidural vascular malformation) and unspecified coagulopathy returned for left thigh bleeding and deep hematoma without trauma. Usual coagulation parameters (PT, aPTT, fibrinogen, thrombocytes) were normal. She did well with bedrest, ice packs, i.v. fluids and analgesics. Over the next 4 years she was admitted 8 times for similar bleeding episodes, including soft tissue, knee joint and abdominal bleeding. No source of bleeding was identified. Special coagulation studies finally identified defficiency of FXIIvW, but no genetic studies were performed. Treatment included rest, ice packs, i.v. fluids, and fresh- frozen plasama (FFP) transfusion. No surgery was required and the patient was transfered to an adult Hematology service at the age of 18. **Discussions :** Von Willebrand disease (VWD) is caused by FXII vW defficiency. It is present in 1% of the general population as recurrent bleeding episodes. It may have a recessive or dominant autosomal transmission. Diagnosis relies on special coagulation tests (FXIIvW level) and genetic studies. Several types (1, 2 3 and thrombocytic) have been described. The case we present had several major surgical procedures for acute appendicitis, left femur fracture and epidural vascular malformations, during which prolonged bleeding was noticed. She then was repeatedly admitted for deep (soft tissue, knee, abdominal cavity) bleeding episodes. Conservative treatment was performed with good results. Late diagnosis identified defficiency of FXIIvW. The clinical presentations suggests a type 3 WVD with joint bleeding, but genetic tests should pe performed in this patient. **Conclusions:** Von Willebrand Disease should be suspicioned in case of recurrent bleeding episodes in which usual coagulation tests are normal. All efforts should be made to treat these patients conservatively. Genetic testing it recommended to clarify the diagnosis and offer proper prophylaxis and treatment options.

Keywords: Von Willebrand, coagulopathy, genetic disease

VERTEBROBASILAR STROKE- A LIFE THREATENING CONDITION

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Introduction: Cerebral vascular accident (CVA) is the second leading cause of both disability and death worldwide. Acute CVAs cause hypoperfusion resulting in hypoxemia, followed by anoxemia in brain tissue, resulting in neuronal damage and subsequent neurological deficits . CVAs can be classified as ischemic, hemorrhagic, or subarachnoid. Due to their extremely rapid and agressive evolution, early diagnosis and treatment it's mandatory. Treatment of acute CVA include intravascular thrombolysis and endovascular thrombectomy. **Case Report:** A 46-years-old patient with no chronic treatment presented to the emergency department with a rapid on-set of symptoms prior to admission, including headache, vertigo, a decrease in muscular force, paresthesia in right limbs, speech impairment and rigt palpebral ptosis. Cerebral CT angiogram revealed a basilar artery occlusion. Intravascular thrombolytics were administered. After 15 minutes the patient became comatose with a glasgow coma score of 7. The patient was transferred to our interventional radiology unit for endovascular thrombectomy. CT angiogram revealed right posterior cerebral artery and right superior cerebellar artery oclusions. Complete recanalisations of the respective arteries was achieved by the end of the procedure. The patient was discharced after 5 days, clinically stable and with no neurological deficits. **Discussions :** The etiology of ischaemic CVA is due to either a thrombotic or embolic event, compromising brain perfusion. Prothrombotic state causes include atherosclerotic disease, arterial dissection, fibromuscular dysplasia and inflammatory conditions. Embolic events occur by migration of a clot, usually transarterial with a cardiac origin. Other embolic causes include venous, septic, air and fat emboli. The TOAST classification is used to divide the ischaemic CVAs in subtypes that include cardioembolism, lacunar infarcts, large-artery atherosclerosis and CVA of undetermined etiology. The clinical manifestations of CVAs can be different depending on the hypoperfused brain area. Vertebrobasilar infarction can present clinically with ataxia, vertigo, headache, visual field-deficits and abnormal oculomotor findings. Due to it's extraordinary rapid evolution, the ideal time window of treatment for CVA it's 6 hours, including thrombolysis and thrombectomy. **Conclusions:** Cerebral vascular accident it's a highly dangerous disease, with potential complications including severe neuronal damage manifesting with cognitive and psychological disorders, that hinder patients' ability and make them dependent on their daily lives or even death in a matter of hours. Therefore, early diagnosis and treatment it's mandatory.

Keywords: ischaemic, angiogram, vertebrobasilar

IMPORTANCE OF EARLY TREATMENT IN CAROTID CAVERNOUS FISTULA

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Introduction: Carotid cavernous fistulas (CCF) are abnormal arteriovenous shunts between the carotid arterial system and cavernous sinus (CS). Depending on the venous outflow, clinical manifestations are different. Most frequently, venous drainage is through the superior ophthalmic veins resulting in chemosis, proptosis, diplopia and finally vision loss. Due to their potentially aggressive evolution, early treatment is mandatory to preserve visual acuity and avoid intracranial hemorrhage. The main treatment option is endovascular obliteration with different embolic agents through a transarterial or transvenous approach. **Case Report:** A 32-years-old patient with no known chronic diseases was admitted due to a headache, facial asymmetry, left ptosis and exophthalmia. His symptoms had a gradual onset 4 weeks prior to admission, with headaches, followed by chemosis and facial asymmetry. A CT angiography revealed an enlarged left CS with the corresponding dilation of the superior ophthalmic vein. Catheter angiography confirmed an indirect Barrow type D CCF between the meningeal branches of the internal and external carotid arteries and the ipsilateral CS. Endovascular obliteration was achieved through a combined transarterial and transvenous approach using liquid embolic agents injected directly into the CS. Complete obliteration was achieved by the end of the procedure. The patient made a good recovery with complete resolution of his symptoms in 5 days. The follow-up angiogram after 3 months showed no residual or "de novo" arteriovenous shunts. **Discussions :** CCF's are the result of trauma in more than 2/3 of cases. Spontaneous CCF shunts occur usually due to ruptured internal carotid artery (ICA) aneurysms, hypertension, or collagen diseases like Ehler's-Danlos syndrome and fibromuscular dysplasia. Because of haemodynamic clinical implications. Based on their arterial supply, CCF's are classified according to the Barrow classification into direct fistulae between the ICA and CS (type A), and 3 indirect communication (type B, C, D), namely dural fistulas, between dural branches of the ICA, ECA and the CS. Without treatment CCF's carry a poor prognosis, which can include vision loss, intracranial hemorrhage and death. Due to recent technological advances, endovascular obliteration is the main treatment modality. **Conclusions:** Carotid cavernous fistulas are dangerous vascular diseases with catastrophic consequences, including vision loss, intracranial hemorrhage and even death. To avoid these complications, a timely clinical and radiological diagnosis is mandatory. The gold-standard treatment option is endovascular obliteration.

Keywords: cavernous sinus, fistulas, endovascular

PERSPECTIVES IN THE MANAGEMENT OF HLHS. THE IMPORTANCE OF EARLY ECHOCARDIOGRAPHIC DIAGNOSIS AND EARLY INTERVENTION

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Introduction: Hypoplastic left heart syndrome is one of the most severe congenital heart conditions which, if not treated properly can lead to a fatal outcome within the first days after birth. **Case Report:** This papers' aim is to emphasize the importance of early diagnosis and management of this disease, and to state the latest discoveries and techniques used in order to get the best prognosis for these patients. In these circumstances, we present the case of a 24 weeks old fetus, diagnosed intrapartum with severe aortic stenosis. The fetal 4 chamber echocardiography revealed a dilated left ventricle with mild dysfunction and a large left atrium. The Color Doppler Ultrasound showed an important mitral regurgitation. The 5 chamber view showed the thickened aortic valve with severely reduced mobility. A series of discoveries leading to high risk of HLHS development were brought to attention: monophasic mitral flow, retrograde flow in the transverse aortic arch and reversed flow through the atrial septum. Based on these discoveries, fetal aortic valvuloplasty seemed to be the best option for the fetus, in order to establish a biventricular circulation. The procedure was a success. The post-procedural results as seen through echocardiography were improved contractility, anterograde flow into the transverse aortic arch with a biphasic mitral flow and bidirectional flow through the atrial septum. The postnatal evolution was very good, with biventricular circulation and only a moderate systolic and diastolic dysfunction, without gradient through the aortic valve and mild regurgitation. 3 years after the intervention, the left ventricle has a good systolic function, and the medium aortic gradient is around 15mmHg. **Discussions :** The morphogenesis of the heart can be highly

disrupted by obstructive lesions, leading to alterations in the blood flow and pressure. The last resort for patients with diagnosed HLHS may be the palliative three staged surgical procedures, with lack of successful outcome. Hybrid management and heart transplantation can also be considered. Fetal echocardiographic diagnosis and early stage in utero interventions stand the chance to improve the aftereffect for these patients. The most impactful problem that has to be considered for these patients is the poor neurological development due to disturbance in intrauterine cerebral perfusion. **Conclusions:** Although severe aortic stenosis is a critical condition which exposes the patient to a high risk, its manifestations in utero are discreet. Early diagnostic procedures and interventional approach can change the course of the disease drastically.

Keywords: HLHS, stenosis, valvuloplasty

DIAGNOSTIC PITFALLS IN CLINICALLY ISOLATED AORTITIS – A CASE REPORT

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Introduction: Clinically Isolated Aortitis is a rare type of localized inflammation of the aortic wall, typically appearing in patients over 50 years without systemic vasculitis. It is unknown if patients will develop a systemic vasculitis or if the vasculitis is in fact systemic, but mainly subclinical. **Case Report:** A 62-year-old male was brought to the Emergency Department accusing sudden-severe chest pain and dyspnea. Imaging investigations revealed a Stanford type-A aortic dissection of the ascending aorta and hemopericardium. Emergency surgery with replacement of the affected aorta was done. Microscopic examination of the replaced segment showed an extensive dissociation of the intima from the underlying musculo-elastic layers, with an abundant hematic extravasation and a diffuse inflammatory infiltrate mainly consisting of macrophages and multinucleated giant cells along with lymphocytes, plasma cells and few eosinophils. Intimal proliferation with multiple foci of fibrinoid necrosis were also observed. The lamellar structure of the media was extensively replaced by reactive myofibroblast proliferation, resulting in a marked architectural disorganization. Other findings included nuclear loss of myocytes, elastic fiber collapse and an accumulation of a trans-lamellar amorphous acellular material. The above-described lesions were emphasized with Hematoxylin-Eosin stain, Van Gieson-Elastica, Trichrome, PAS-Alcian Blue and immunostains (CD3, CD20, CD68). **Discussions :** Although the histological features seen in this case indicated a non-specific inflammatory process of the aorta, a precise diagnosis needs correlation with clinical data. Both Giant Cell Arteritis and Takayasu Arteritis, as well as IgG4-Related Disease, Granulomatosis with Polyangiitis and infectious aortitis (syphilitic, mycobacterial and fungal) can initially present as Clinically Isolated Aortitis, which makes the final diagnosis difficult. **Conclusions:** In patients with aortic dissection, microscopic examination of the replaced segment might add important information for clinical interpretation of the case. Such cases need a more serious transdisciplinary approach.

Keywords: Clinically Isolated Aortitis, Aortic dissection, Non-specific inflammation

POLYMICROBIAL ABDOMINAL SEPSIS IN A PATIENT WITH HOSPITAL ACQUIRED SEVERE COVID-19

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Introduction: During the pandemic hospital acquired COVID-19 transmission control seems to be incredibly hard. Especially in vulnerable patients a severe SARS-CoV-2 infection may lead to variable degree of complications or may become even a serious life-threatening condition. Vaccines are a proven measure for protection of serious complications in COVID-19 **Case Report:** We report the case of a COVID-19 unvaccinated 67-year-old female patient, with a history of primary arterial hypertension and chronic ischemic heart disease, recently discharged from surgical department, where she underwent a laparoscopic cholecystectomy with pseudocyst gastrostomy. One day prior hospital readmission the patient complains were: chills, irritating cough, nausea and vomiting. In the emergency department she was tested positive for RT-PCR SARS-CoV-2, associated with raised inflammatory markers, on chest CT left poster basal consolidation of the lung with pleural effusion was seen. The patient was admitted to the Infectious Diseases Clinic with a severe COVID-19 (Sa02: 87% in room air and pulmonary affection). Antiviral, antibiotic, anticoagulant and anti-inflammatory treatment was started. After 8 days of

hospitalization the patient developed fever and abdominal pain with further bilious vomiting with fecal content. She was transferred to Surgical Department for follow up, but she was sent back after 24 hours and no surgery was performed. Procalcitonin levels were significantly increased, abdominal CT revealed necrotic pancreatitis with peripancreatic fluid, from the blood culture Enterococcus spp. and Veillonella spp. were isolated. Imipenem therapy was initiated. Gastroenterological and surgical reevaluation for persistent abdominal pain ruled out acute abdomen, continuing therapy was recommended. The final diagnosis was polymicrobial abdominal sepsis in a patient with severe COVID-19. After 22 days the patient was discharged in stable condition with favorable outcome. **Discussions :** Recent publications argue that COVID-19 occurence in the postoperative period increases the complication rate. However, the risk may be even higher if the patient is unvaccinated, with prior hospitalization. **Conclusions:** The management of providing surgical procedures poses unique challenges during COVID-19 pandemic. This case also emphasize the importance of COVID-19 vaccination especially in high-risk patients, for decreasing the complication rate. Special care should be taken in the postoperative phase, in order to prevent COVID-19 infections in this vulnerable period. The use of personal protective equipment, COVID-19 screening, and logistics of inpatient social distancing are essential for reducing the transmission.

Keywords: COVID-19, sepsis, postoperative phase

MYOCARDITIS ON A NEWBORN POST SARS-COV2 INFECTION-THE EFFECT OF AMIODARONE ON THE THYROID

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Introduction: Myocarditis is is an uncommon disorder that leads to inflammation of the heart muscle, usually caused by viral,bacterial or fungal infection that affects the myocardium .Congenital myocarditis occurs most frequently after maternal viral infections during pregnancy and nowadays a common pathological agent is Sars-Cov 2 infection. **Case Report:** This case presentation aims to emphasize the possible effects of Covid-19 infection on a newborn heart muscle, and the problems caused by the treatment of this disorder. **Discussions :** After 3 months the thyroid function was restored and the conclusion was that Amiodarone did not have any significant long lasting negative effect on the Thyroid. The recommendations for this patient are to continue active cardiological treatment and surveillance and endocrinological follow-up. **Conclusions:** Drugs such as Amiodarone can have a negative effect on patients of all ages, newborn babies as well. Furthermore,the infection with SARS-COV2 can have dangerous effects on newborns heart muscle,sometimes requiring a chronic and difficult treatment.

Keywords: Amiodarone, subclinical hypothyroidism, miocarditis, ventricular tachyarrhythmias

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THE DECEIVING NATURE OF FEVER IN CHILDREN – A CASE REPORT

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Introduction: Juvenile idiopathic arthritis (JIA) is the most common form of arthritis encountered in children under 16 years old. Around 10% of patients with JIA are diagnosed with Systemic Juvenile Idiopathic Arthritis (SJIA) which manifests through high spike fever, joint inflammation, skin rash, enlarged lymph nodes and other signs of inflammation of internal organs (splenomegaly, hepatomegaly, pericarditis, pleuritis). **Case Report:** A 14-years-old male patient is admitted to the Pediatric Department complaining of fever (39°C), that started 11 days before hospitalization. Clinical examination revealed muscle pain, generalized weakness, loss of appetite, pharyngeal hyperemia and pain. Initial blood tests showed neutrophilic leukocytosis, elevated inflammatory markers (CRP, Ferritin, ESR), elevated GOT/GPT and LDH, negative ASLO. Antibiotic treatment was initiated alongside with Hydrocortisone, without any improvements. During the hospitalization, the patient presented erythematous rash and later, pain in distal interphalangeal joints which, together with the other symptoms, draw attention to a SJIA diagnosis. Further investigations were performed, revealing hepatomegaly and splenomegaly, negative rheumatoid factor, negative citrullinated peptide and positive cryoglobulinemia. Considering the symptoms, investigation results and clinical evolution of the illness, the patient was diagnosed with SJIA. Systemic steroid therapy was initiated with Prednisone, leading to a satisfactory clinical response. **Discussions :** Diagnosing SJIA is a difficult process, as the extra-articular symptoms, that are also more obvious at the onset of the disease, can mimic many

other conditions. In our case, the initial clinical context resembled a bacterial infection. As the spike fever persisted, accompanied by episodic erythematous rash, a staphylococcic shock syndrome was considered. Therefore, the SJIA diagnosis can easily be overlooked without any signs of joint inflammation. **Conclusions:** This case highlights the importance of careful clinical observation and proper differential diagnosis, especially regarding fever in children, as only one symptom can hide various diagnosis.

Keywords: Juvenile Idiopatic Arthritis, fever, pediatric pathology

EXTENSIVE ABDOMINAL NEUROBLASTOMA IN A 7-MONTH-OLD GIRL - A CASE REPORT

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Introduction: Neuroblastomas originate from primitive neural crest cells and have an incidence of about 1/7000 live births, with a higher incidence in males and white patients. They account for 30-40% of malignant tumors in newborns and about 8% of all childhood malignancies. **Case Report:** We report about the case of a 7-month-old girl, born at term by a cesarian section with a birth weight of 3900g and an APGAR score of 10. At 2 months of age, the patient presented marked abdominal distension, which the family doctor associated with being overweight at this time. At the beginning of the year, the patient was admitted to the Pediatric Clinic I, where a massive abdominal tumor was discovered on ultrasound. Based on laboratory findings (HVA 62,5mg/24h, VMA 99,86mg/24h, NSE 373,20ng/mL, N-Myc amplification neg.) the diagnosis of the right adrenal neuroblastoma(8.7cm), with the involvement of the abdominal aorta and possible extension to the left adrenal gland, metastases in liver and skin were found (stage 4S). The patient underwent two cycles of chemotherapy (VP Carbo). Additionally, the patient suffers from an atrial septal defect. **Discussions :** Neuroblastomas most commonly appear as palpable abdominal mass and about 90% of the cases are diagnosed under the age of 5 years. The prognosis is based on the age at presentation (younger=better), children over 5 years of age have a poor prognosis. Surgical excision of the tumor is the method of choice when it comes to low-risk patients, while for high-risk patients a combination therapy (radiation, chemotherapy, surgery, biologic/immunotherapy, bone marrow transplant) is advised. Patients with N-MYC amplification have a worse prognosis and possibly benefit the most from bone marrow transplantation. Most tumors are in the abdomen and tend to metastasize (liver, lymph nodes, bone, skin, lung, CNS). The clinical outcome varies widely, while some tumors regress spontaneously, others maturate or metastasize aggressively. **Conclusions:** The evolution of the disease is unique, it can present spontaneous regression, especially in infants in stages 1 and 4S. Unfortunately, this outcome is unlikely for our patient due to the rapid growth of the tumor and the poor response to chemotherapy (only 15% decrease in size, persistence of metastases). Due to the involvement of the abdominal aorta, surgery wasn't considered a treatment option. Patients should be treated by a multidisciplinary team to achieve the best possible outcome. Ultrasound can be used as a screening tool and neuroblastoma should be considered in neonates and infants with marked abdominal distension.

Keywords: Pediatrics, Oncology, Neuroblastoma, Pediatric oncology

SALVAGE TRANSJUGULAR INTRAHEPATIC PORTO-SYSTEMIC SHUNT IN RARE CASE OF CIRRHOSIS WITH ECTOPIC VARICEAL BLEEDING -A CASE REPORT

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Introduction: Liver cirrhosis is a diffuse pathological process, characterized by fibrosis and conversion of normal liver architecture to structurally abnormal nodules known as regenerative nodules .Complications of cirrhosis such as variceal bleeding are in direct relationship to portal hypertension. Ectopic varices however are a rare but high risk complication of the disease and the management of such lesions remains clinically problematic.We present the case of a young patient with autoimmune liver cirrhosis, periduodenal varices and uncontrollable bleeding. **Case Report:** 28 years old female pacient known with Down syndrome, hemochromatosis, autoimmune liver cirrhosis Child Pugh A and severe hepatic steatosis presents to the emergency department complaining of melenic stools.Upper gastrointestinal endoscopy was negative for esophageal/ gastric variceal bleeding and an emergency abdominal computed tomography angiography (CTA) was performed.It revealed large periduodenal varices with active hemorrhage and large shunts.Endoscopy management, including clipping and cyanoacrylate injections

failed to stop the bleeding.In an attempt to stop the bleeding, liver angiography was performed.Portosystemic gradient was measured at 3 mmHg, excluding PHT. Multiple shunts were identified between the portal vein and the pancreaticoduodenal vein, which were occluded with 3 metal coils.A transjugular intrahepatic portosystemic shunt (TIPS) was placed in an attempt to reduce the splanhnic blood flow to the duodenum.One week after the TIPS procedure the pacient had one episode of grade III/IV encephalopathy and was transferred to the intensive care unit.She became encephalopatic, developed multiple organ insufficiensis and died 12 days post operation of an cardiac arrest. **Discussions :** Management of ectopic duodenal varices is challenging and a multidisciplinary approuch is recommended.Diagnosis before bleeding is troublesome, especially due to their location and relatively low frequency. At the moment there is no consensus on the management of ectopic varices due to the heterogeneity of presentation and absence of of randomized controlled trials.In our case, coil embolization and TIPS were performed as a last resort to control the variceal bleeding.TIPS is usually an effective treatment of complications of portal hypertension, such as recurrent variceal bleeding and refractory ascites, but the use of TIPS in treating ectopic varices is less common and deems future research. Accurate selection of pacients for this procedure is crucial to prevent complications such as hepatic encephalopathy. **Conclusions:** Management of variceal bleeding is challenging especially when it originates in the less common sites and it requires a multidisciplinary and personalized approach.

Keywords: Liver cirrhosis, Ectopic varices, Transjugular intrahepatic portosystemic shunt

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A RARE ASSOCIATION BETWEEN ALAGILLE SYNDROME AND CARDIAC MALFORMATIONS

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Introduction: Alagille syndrome is a rare autosomal genetic dominant disorder caused by mutations in the JAG1 gene, associated with abnormalities of the liver, heart, eyes, skeleton and facial dysmorphism. **Case Report:** An 8-month-old girl presents with low weight, delayed psychomotor development, and fatigue during breastfeeding. It had been discovered that the patient had a systolic murmur at 4-months-old. Afterwards she was sent to our pediatric cardiology department. Following a transthoracic echocardiogram she was diagnosed with atrial septal defect (ASD) a large ostium secundum type extended to the ostium primum portion with a left to right shunt, dilated pulmonary artery (PA), important stenosis of the left lung branch and left persistent superior vena cava (SVC) with an opening in the coronary sinus. A CT-angiography described an ASD of 2 cm and dilated PA with a bicuspid valve. For establishing the anatomy of the interatrial septum and exclusion of anomalous associated pathology a transesophageal echocardiography was done. Furthermore she was diagnosticated with hepatic cholestasis after following the analyzes: GOT: 87U/L, GPT: 36U/L, GGT: 144U/L, LDH: 756U/L, DBil: 0.10mg/dl, TBil: 0.20mg/dl. The association between cardiac and hepatic pathologies, facial dysmorphism (macrotia, deep-set eyes, broad forehead, bulbous nose) and the dystrophy directed us to perform a genetic analysis. The result was positive for JAG1 mutation indicating a rare genetic disorder known as Alagille Syndrome. Due to the association of malformations in an infant with heart failure the decision to surgically correct the ASD and enlargement of the left pulmonary artery was taken. **Discussions :** Congenital heart disease and Alagille syndrome are generally a common occurrence, but the association between all the three congenital cardiac malformations (ASD, persistence of left SVC, bicuspid pulmonary valve with severe stenosis of the left pulmonary artery) is very rarely observed. The least documented malformations are: left superior vena cava with an opening in the coronary sinus and bicuspid pulmonary valve, their simultaneous appearance has not been proposed by other researchers as being directly tied to the Alagille Syndrome. **Conclusions:** The aforementioned rare situation led to a notable decision to conduct early in the life of the patient a surgery that is commonly done at a later age. The patient recovered well from the operation, the right cavity of the heart shrunk, they regained their weight. After 9 months the patient presented with large pulmonary stenosis of the left pulmonary branch, slightly elevated transaminase levels kept under control with ursodeoxycholic acid.

Keywords: Alagille Syndrome, Bicuspid pulmonary valve, Cardiac malformations, JAG1 gene

SEVERE INFLAMMATORY RESPONSE IN A PATIENT WITH ST ELEVATION MYOCARDIAL INFARCTION DUE TO COVID-19 INFECTION - CASE REPORT

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Introduction: It is well known that COVID-19 infection is a major cardiovascular risk factor leading to high mortality. A severe Inflammatory response characterized by cytokine storm in patients with COVID-19 is common and may lead to myocardial damage defined by elevated troponin levels. **Case Report:** A 54 year old male patient, with recurrent acute coronary events and multiple cardiovascular comorbidities admitted into the Cardiology Department of the Emergency County Clinical Hospital of Targu Mures, Romania. Previously, the patient underwent a complex coronary revascularization with a drug eluting stent implantation due to an acute coronary syndrome.At the current hospitalization, the patient presented with a typical 3-day angina associated with symptoms of cardiogenic shock - low blood pressure (BP 78/55 mmHg) requiring inotropic and vasoactive support, heart rate 55 bpm and a recent history of COVID - 19 infection. The ECG performed in the emergency department showed atrial fibrillation with ST-segment elevation in postero-infero-lateral leads. Laboratory tests showed severe myocardial damage (high sensitive troponin I value 24844 to 31832 ng / l), leukocytosis with neutrophilia and severe respiratory acidosis. In the emergency department, the patient showed sudden hemodynamic damage, with oxygen desaturation of up to 75%, for which intubation and mechanical ventilation and emergency catheterization were performed. **Discussions :** The examination was performed under COVID-19 protection and revealed intense angiopathic left coronary system, with a diameter less than 2 mm, with oversized permeable stent at the level of anterior descending artery, lesions not suitable for revascularization procedures, the examination revealed also chronic occlusion of the right artery. Intraprocedural, due to an extreme bradycardia a temporary pacemaker was implanted, and subsequent the patient was transferred into the intensive-care COVID unit. **Conclusions:** Myocardial infarction in young patients is often associated with traditional risk factors, but especially with the inflammatory background. COVID-19 infection in cardiovascular patients increases the inflammatory process and causes the activation of the cytokine storm leading to the acceleration of the atherosclerotic process (lesions not suitable for revascularization / survival) and severe inflammation of the endothelium in the coronary arteries.

Keywords: COVID-19, cardiogenic shock, myocardial infarction

SURGICAL AND CLINICAL MANAGEMENT OF BETHESDA II FOLLICULAR NODULE IN A YOUNG FEMALE PATIENT

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Introduction: It has been reported that 80 percent (%) of thyroid nodules are found in young females, but only 5 to 15 % of them are found to be malignant. As the thyroid conditions screening is reaching accessibility and cost-efficiency, more and more benign, malignant or autoimmune cases are discovered and managed. **Case Report:** A 20 year-old female patient is admitted to the Endocrinology ward with an anterior cervical mass in February 2019. The physical examination of the thyroid showcases an enlarged palpable left nodule of solid consistency, painless, with regular margins and mobile with deglutition. The laboratory explorations ordered were a complete blood count, basic metabolic and thyroid panels, the erythrocyte sedimentation rate and calcitonin, without any abnormal values. The thyroid ultrasound performed located an enlarged left lobe occupied mainly by a mixt inhomogeneous nodule (50% chistic), along with a posterior hypoechoic nodule (primarily chistic). No laterocervical adenopathies were detected. **Discussions :** The ultrasound-guided Fine Needle Aspiration (FNA) revealed a benign follicular nodule Bethesda II (0-3% risk of malignancy, with the recommendation of periodical clinical monitoring and further FNA, if needed. Air-dried alcohol-fixed Papanicolaou (Pap)-stained smears were used to determine a mixt (solid and chistic) macronodule. Internally, a polilobulated, highly vascular, solid area was described. In the following year, the thyroid ultrasound and FNA indicated an increase in the nodules` dimensions, along with dysphagia. Considering the progressive growth, FNA (and its 5% rate of false-negative results), and category 3 in the European Thyroid Imaging Reporting and Data System (EU-TIRADS), the general surgery consultation suggested a left hemithyroidectomy. **Conclusions:** Subsequently, the histopathology report confirmed the benign nature of the nodule. Furthermore, the laboratory findings issued 2 months after were consistent with borderline euthyroidy.

However, a 3 month check-up is needed to reaffirm the euthyroidy. Considering the fact that the evolution towards hypothyroidism is more common in male patients and anti-TPO antibodies were not elevated, it is believed the patient will have a long-term recovery. In marginally elevated TSH levels (under 10 mUI/L), the Hypothalamic-Pituitary-Thyroid Axis is rarely sensitive to hormone replacement therapy. All in all, we conclude that this benign nodule was most responsive to surgical excision and it is expected that the remaining thyroid lobe will compensate for the function loss of the other.

Keywords: hemithyroidectomy, thyroid nodule, FNA, Bethesda II

MULTIPLE INFECTIOUS COMPLICATIONS: THE CASCADING EFFECT OF COMORBIDITIES IN A POST COVID DIABETIC PATIENT.

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Introduction: When untreated, either due to it not being diagnosed or due to poor management, diabetes mellitus will lead to a plethora of multi-systemic complications, from neuropathy, chronic kidney disease and diabetic ulcers, to severe immunodeficiency and cardiovascular disorders. **Case Report:** A 68 y/o male patient known with poorly managed diabetes mellitus type 2 (with associated peripheral neuropathy, diabetic nephropathy, arteriopathy, atherosclerosis, ischemic cardiomyopathy, arterial hypertension, and diabetic ulcers) presented to the hospital with a **severe form of SARS-CoV-2** pneumonia, requiring orotracheal intubation, noninvasive ventilation, and prolonged hospitalization.The patient developed pressure ulcers in the sacrum, right heel and hip regions, and a urinary tract infection with Klebsiella. The patient's condition evolved towards **septic state** with multiple starting points caused by Klebsiella sp. and Acinetobacter baumannii, therefore proper antibiotic treatment was administered. Following that, the patient developed C. difficile **colitis** that required additional antibiotic treatment.After antibiotic, anti-inflammatory, anti-hemorrhagic, anticoagulant medication, albumin perfusions, iron supplements, proper wound cleaning, anti-ulcer mattress and specialized care at home, the patient made a **remarkable recovery**, **despite the low odds of survival** (age, comorbidities, severity). **Discussions :** The main affliction that started the cascade was the **immunodeficiency state**, which resulted in a severe form of SARS-CoV-2 pneumonia. The severity of the case was not recognized at admission, mostly due to the unknown level of the diabetic complications the patient had developed.The quickly devolving state of the patient, which progressed from viral pneumonia to sepsis and colitis, with additional pressure ulcers that could get infected, might have resulted in death, if not for proper treatment aimed at the **etiological causes**, at the **symptoms**, and at the **potential complications** like thrombosis or edema.Proper at-home care was also a key step in the remarkable recovery, ensuring the prevention of relapses and proper healing. **Conclusions:** Assessing the severity of complications of diabetes or other chronic diseases at admittance could prepare the medical team for the possible adverse events that might occur during hospitalization, and could indicate the need for supplementary prevention methods.**Prophylactic antibiotherapy** should be one of the first steps in those complicated cases, in order to prevent sepsis and septic shock. Preventing pressure ulcers, that could get infected, using proper devices from the beginning for patients at high risk could also help prevent sepsis.At-home professional care after hospitalization should be the last step in these cases in order to **increase the quality of life** and the odds of a **full recovery**.

Keywords: Medical complications, infections, Covid, diabetes

A FASCINATING ASSOCIATION OF TRANSPOSITION OF GREAT ARTERIES ACCOMPANIED BY SEPSIS

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Introduction: Transposition of great arteries in which the aorta and pulmonary artery are inverted. The pulmonary artery emerges from the left ventricle and the aorta emerges from the right ventricle. Patients with a restrictive patent foramen ovale, with poor mixing of oxygenated and non-oxygenated blood, require an urgent balloon atrial septostomy under echocardiographic guidance, to enlarge the defect for better oxygenation. Sepsis in a newborn is considered a severe infection in an infant. **Case Report:** A newborn boy presents persistent cyanosis, expiring moaning and a FR of 60-70/min. Diagnosticated with transposition of major arteries intrauterine. It was confirmed

through echocardiography postpartum that he has transposition of great arteries. Administration of PGE1 is instituted and a balloon atrial septostomy is performed to enlarge an atrial septal defect to 5-6mm and SpO2 85%. When the patient was 12 days old, the arterial switch was performed, accompanied by the closing of the atrial septal defect and ligature of patent ductus arteriosus. 4 days following the operation, the patient developed tachypnea, tachycardia, difficulties eating and right pleurisy accumulated in 6 hours. Furthermore, it is confirmed that he has sepsis with a mix of gram-positive and negative pathogens. The bacteria affected him on multiple plans such as: renaly with an AKI state of 3, hepatically with hepatosplenomegaly, respiratory by needing continuous ventilation accompanied by pneumonia and acidosis as well as hematological with severe thrombocytopenia and anemia. Right pleural drainage combined with Sindax, Adrenaline and invasive respiratory support is instituted for 3 days. ECMO protocol is engaged for 5 days as well as leaving the sternum open for the meantime. **Discussions :** Infants with a congenital heart disease (CHD) are frequently exposed to major surgical procedures, extracorporeal membrane oxygenation, multiple intravascular devices, prolonged central venous access, and prolonged hospital stays that may increase their risk of sepsis. While gram-positive sepsis is associated with significant morbidity in infants, gram-negative sepsis is associated with higher mortality and fulminant illness. Multicenter studies found that up to 70% of late-onset sepsis episodes are caused by gram-positive organisms, nearly 15% are caused by gram-negative organisms, which highlights the fascinating association of bacteria found in this case. **Conclusions:** Knowledge of the pathogens and mortality associated with sepsis in infants with CHD is important for targeting efforts to prevent infections and selecting appropriate antibiotic therapy.

Keywords: Transposition of major arteries, Sepsis, Gram-negative, CHD

JOUBERT SYNDROME ASSOCIATED WITH END-STAGE RENAL DISEASE – CASE REPORT

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Introduction: Joubert syndrome (JS) is a rare autosomal recessive ciliopathy affecting the cerebellar vermis and brainstem. The main clinical manifestations include moderate to severe hypotonia, ataxia, delayed intellectual development, and uncontrolled eye movements, followed by the presence of the "Molar Tooth Sign" (MTS), a pathognomonic neuroradiological finding in this disorder. Ciliopathies represent a group of diseases caused by a dysfunctional cilium-centrosome complex, characterized by variable pathological chronic patterns of multiorgan systems. **Case Report:** An 11-year-old girl, the first child of a consanguineous marriage, diagnosed with JS, presenting generalized hypotonia, global developmental delay, nystagmus, and congenital retinopathy, was referred to our department for evaluation of renal function after she developed oliguria. Clinical examination revealed an elevated serum creatinine level (2.05 mg/dL) along with a glomerular filtration rate (GFR) below 15 mL/min/1.73m^2 and multiple cystic appearances with bilateral kidney involvement on ultrasound. End-Stage Renal Disease (ESRD) was diagnosed and renal replacement therapy with peritoneal dialysis was immediately started. After 5 months, the peritoneal catheter was removed because of infectious complications and hemodialysis was initiated. Within a year, the jugular venous catheter for hemodialysis had to be replaced 2 times because of recurrent catheter related bloodstream infections, and later she was considered for kidney transplantation. The left kidney was donated by her mother, who had a 100% human leukocyte antigen (HLA) match. At the present time, her condition has improved significantly, laboratory tests show a normal serum creatinine level (0.5 mg/dL), urinalysis and clinical findings are normal, and estimated GFR is 95.9 mL/min/1.73m^2. **Discussions :** Joubert syndrome belongs to a group of diseases known as ciliopathies, which are associated with more than 40 gene mutations that result in the loss of cellular structures, and impair ciliary function. It often presents as a multisystem disorder that affects other ciliary-dependent organs such as the liver, kidney, and pancreas in addition to neurologic findings. Renal dysfunction has been described in approximately one-third of patients and ranges from the most common manifestation, juvenile nephronophthisis, to cystic dysplasia or polycystic kidney disease, which collectively lead to ESRD. **Conclusions:** Joubert syndrome is a rare inherited ciliopathy with characteristic neurologic development and multisystemic involvement. Knowledge of the clinical and radiological findings will help to better diagnose the polymorphism of the disease and determine the appropriate treatment for all affected organs in a timely manner.

Keywords: Joubert Syndrome, Ciliopathy, Kidney

INTRACORONARY IMAGING IN THE MANAGEMENT OF ACUTE CORONARY SYNDROME. A CASE REPORT

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Introduction: Despite the advances in the diagnosis and management of cardiovascular diseases, acute coronary syndromes (ACS) represent a major cause of mortality worldwide. Thus, complex intracoronary imaging in the management of vulnerable plaques remains an important technique in the therapeutic approach of these patients. **Case Report:** A young female was admitted with acute coronary syndrome into the Cardiology Department of the Emergency County Clinical Hospital of Targu Mures. The patient accused constrictive chest pain associated with dyspnea and fatigue. The electrocardiogram revealed sinus rhythm and ST segment depression in V3-V6 leads. Laboratory tests revealed hypercholesterolemia (284 ng/ dl). The coronary angiography procedure showed complex lesions on the left descending artery and diagonal branch 1. Therefore, a fractional flow reserve was performed to quantify the severity of the lesion completed by intracoronary optical coherence tomography (OCT) to evaluate the plaque morphology and composition. **Discussions :** The intracoronary imaging techniques revealed a vulnerable plaque that caused significant stenosis (FFR=0.72), which was treated by implanting a drug-eluting stent. The high resolution of OCT has the ability to provide detailed microstructural information about coronary plaques in vivo. Control OCT didn't reveal any dissection or luminal protrusions. **Conclusions:** This case presentation highlights the importance of complex intracoronary imaging techniques in the management of acute coronary syndromes in order to reach an individualized therapy in patients with coronary events.

Keywords: acute coronary syndromes, stenosis, intracoronary optical coherence tomography

KAWASHIMA PROCEDURE IN LEFT HETEROTAXY SYNDROME ASSOCIATED WITH MODIFIED THROMBOPHILIA PROFILE

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Introduction: Heterotaxy syndrome is a disease comprised of multiple cardiac and extracardiac malformations. The disease can be categorized either by having an isomerism of left atrial appendages or right atrial appendages. **Case Report:** A one year old child is admitted to our clinic with a previously diagnosed complex congenital heart disease which is pulmonary ductal dependent (functionally univentricular heart, atrioventricular canal defect, ventricular septal defect, common atrium, transposition of great vessels, infundibular and valvular pulmonary stenosis). In addition, the CTA revealed that the patient has dextrocardia, heterotaxy syndrome left isomerism and an interrupted inferior vena cava with azygos continuation. Due to the complex nature of the malformation, the patient had surgery a year ago to make a systemic to pulmonary artery shunt, to ligate the pulmonary artery and to close the ductus arteriosus. The patient is reevaluated echocardiographically revealing the patent systemic to pulmonary shunt, a normal ventricular systolic function and atrioventricular valve regurgitation. The hemodynamic study shows a superior vena cava system consisting of a left superior vena cava in which the azygos vein drains, who continues the interrupted inferior vena cava. The pulmonary circulation is well developed but the right pulmonary artery has a medium stenosis and the left subclavian artery has a stenosis after the origin of the shunt. The mean pulmonary arterial pressure is 9mmHg and the pulmonary resistance is 1.81 UW/m2. This measurement allows the cavopulmonary anastomosis to be done. The chosen surgery was the Kawashima procedure with the addition of the pulmonary artery bifurcation enlargement with pericardial patch. Unfortunately in the postoperative period the patient developed a biventricular contractile dysfunction needing inotropic support. Also the central line was colonized with Enterococcus faecium but fortunately the hemocultures were negative. **Discussions :** In heterotaxy syndrome the description of the anatomy is essential to understanding the pathology. In this case the associated cardiac malformations were severe and also complicated by the right pulmonary artery stenosis. In addition, considering the complex surgical procedure and the postoperative care needed, it was decided to screen for thrombophilia and the genetic profile revealed PAI-1 4G/5G and MTHFR A1298C homozygous mutations. **Conclusions:** The patient recovered and will be receiving prophylactic anticoagulant treatment with close monitoring due to the complex procedure and thrombophilia profile.

Keywords: heterotaxy, congenital heart disease, dextrocardia

PSEUDOACHONDROPLASIA: NOT A PSEUDO-RISK - THE IMPORTANCE OF GENETIC TESTING IN FINDING NOVEL PATHOGENIC ALLELES

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Introduction: Pseudoachondroplasia [PSACH, OMIM: 177170] is a type of skeletal dysplasia, characterized by short stature, disproportionate limbs, early onset osteoarthritis, and joint pain; the face and intelligence are normal. The patients look normal at birth and the diagnosis is made only at 2-3 years old. The disease is autosomal-dominant, most cases being de-novo variants (70%), the rest being inherited. The gene responsible for pseudoachondroplasia is COMP (cartilage oligomeric matrix protein), which coordinates the assembly of collagen in the extracellular matrix. **Case Report:** We present the case of a 10-year-old girl diagnosed with pseudoachondroplasia, which was confirmed through genetic testing. The patient presents characteristic symptoms for her syndrome: brachymelia, bilateral genu valgum, sternum excavatum, ligamentous laxity. The bone age corresponds to the physical age and osteodensimetry tests show a lower-than-normal bone density. Radiological exams revealed deformed epiphysis, enlarged metaphysis, hypoplastic femoral heads, scoliosis, and hyperlordosis. Following genetic testing, a new potential pathogen allele was discovered, which has not been registered yet, namely COMP: c.920_921insATG (p.Gly307_Ile308insCys. The mutation implies the insertion of a cysteine between the amino-acids 307 (glycine) and 308 (isoleucine). The patient is following a treatment with bisphosphonates (pamidronic acid, used in the treatment of osteoporosis) and orthopedical treatment and counseling. **Discussions :** The COMP gene codes for an extracellular protein found near tendon, ligament, and cartilage cells. It coordinates the collagen assembly and the proliferation of chondrocytes in the epiphyseal cartilage. Mutant proteins cannot be excreted by the chondrocytes in the matrix, and will accumulate in the endoplasmic reticulum, leading to inflammation and cell death. Therefore, bone growth will stop. Proper treatment includes biphosphates to prevent and treat osteoporosis, orthopedical surgeries to correct scoliosis and hip problems, and painkillers. The importance of genetic testing is paramount, not only for the definitive and differential diagnosis, but also for the discovery of new alleles. Differential diagnoses include osteochondrodysplasia, achondroplasia, and multiple epiphyseal dysplasia. The diagnosis for pseudoachondroplasia is made following clinical and radiological characteristics, family history and is confirmed through genetic testing, which becomes increasingly important. **Conclusions:** Although the rarity of this disease might make it look trivial, the importance of pseudoachondroplasia must not be underestimated, due to the impact on the patients' lives. Only through genetic testing can the final diagnosis be determined, new potential pathogenic alleles can be detected, and the treatment can be efficient. This will ensure a better prognostic and a better life for people with pseudoachondroplasia.

Keywords: Pseudoachondroplasia, COMP, osteochondrodysplasia

POST-TRAUMATIC MORPHEA OF THE BREAST

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Introduction: Morphea, also known as localized scleroderma, is a sclerosing disorder of the skin and subcutaneous tissue, clinically presenting irregular areas of hyperpigmentation or hypopigmentation. Various possible causes for the onset of morphea have been reported in the scientific literature, including friction from clothing, injection, herpes zoster infection, and radiation therapy. However, the association of morphea with skin trauma has not been systematically investigated. **Case Report:** We report the case of a 30-year-old woman with a history of breast trauma, presenting to the ultrasound examination with a hypopigmented breast lesion in the external upper quadrant of the left breast, surrounded by an erythematous border. Two microcystic lesions were identified, without any suspicion of lymphatic nodule involvement, suggestive for a BIRADS III lesion. A punch biopsy revealing a small area of fibrotic tissue was performed, followed by a biopsy of the breast in order to obtain a more conclusive result. A deep inflammatory process was observed on the examination of the biopsied tissue and the lesion was classified as BIRADS IV, with no suspicion of malignity. **Discussions :** Following the clinical and histopathological findings, the diagnosis of the lesion remains post-traumatic morphea of the breast until

proved otherwise and will be treated accordingly with topical steroids. Morphea of the breast is a relatively rare skin condition presenting with indurated plaques with an ivory center and a violaceous border, known as "lilac ring", features present in our patient as well. It can be associated with autoimmune disorders and there have also been reported cases of morphea following radiotherapy. The inflammatory stage can easily be mistaken for a malignant lesion, breast abscess or inflammation. **Conclusions:** Having in mind the macroscopic resemblance of such lesions to malignant ones we would like to emphasize the necessity for early testing in order to exclude cases of malignant variants. Therefore, we would like to point out the benefits of early tissue biopsy in patients with any long-lasting post-traumatic breast lesion to confirm a clinical diagnosis and thus guide subsequent therapeutic interventions.

Keywords: morphea, breast lesion, scleroderma

A SILENT BRONCHOPULMONARY TYPICAL CARCINOID: A CASE REPORT

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Introduction: The bronchopulmonary carcinoid accounts for only 1%-2% of pulmonary tumours. Subdivided into 2 categories, the typical one representing the most well-differentiated and least biologically aggressive type of pulmonary NET. At the same time, they show a wide range of clinical and biological behaviours, from being completely asymptomatic to being able to synthesize peptide hormones and monoamines. **Case Report:** We present a 49-year-old patient admitted to the pneumology department of Mures County Hospital. Initially diagnosed with COVID-19, a thoracic CT scan was recommended to assess lung damage. But instead of signs of infection, the CT scan depicted a proliferating tumoural mass measuring 57/35 mm. A fibrobronchoscopy confirmed the presence of a bronchial, encapsulated and vegetative mass located at the level of the 6th segment of the right lung and atelectasis regions are described consequently. The diagnosis was narrowed down by the pathology department, outlining the characteristics of a typical carcinoid in the biopsied tissue obtained during the fibrobronchoscopy procedure. A PET scan evaluated the metastatic stage of the tumour, showing no marked uptake of FDG within the lymph nodes of the mediastinum or supraclavicular region. On that account, the surgical team carried out a lobectomy procedure. The postoperative course was uneventful, the patient being discharged from the hospital in a good condition. **Discussions :** The aim of our study is to present the importance and effectiveness of a screening method for early diagnosis in patients with typical carcinoid. Because of their rarity, the treatment of bronchopulmonary carcinoid tumours presents an interdisciplinary challenge. Secondary to their production of peptides, clinical syndromes are uncommon, but they can include: Cushing syndrome, carcinoid syndrome, or even acromegaly. Moreover, rapidly developing neovascularization derived from the bronchial arteries can be seen in this type of malignant tumours, admitting once again the need for a prompt decision. Surgical resection represents the gold standard for local carcinoid tumours, generally leading to long-term survival. **Conclusions:** The specific features of a typical carcinoid must be taken into account, whilst emphasizing the need for a multidisciplinary view. Furthermore, by acknowledging the clinical silence that it can trigger, we shall consider a screening method which could statistically improve the choice of treatment.

Keywords: carcinoid, fibrobronchoscopy, screening

GRANULOMATOUS CHEILITIS: A CHALLENGING DIAGNOSIS

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Introduction: Granulomatous cheilitis is a rare inflammatory reaction characterized by subepithelial edema alongside with inflammatory infiltrate which leads to the swelling of one or both lips. Its etiology is still unknown and it can affect anyone regardless of age, gender or race. Due the chronicity of the disease, the swelling may remain permanent leaving the patient with a disfigured appearance. **Case Report:** A 53-year-old male presented to the Dermatology Outpatient clinic accusing upper lip swelling associated with burning sensation which debuted 2 months ago. The patient used topical steroid agents and antibiotics but without significant amelioration of symptoms. Also, the patient had neither associated comorbidities nor systemic symptoms. The physical examination of the perioral area revealed an edematous, increased in volume superior lip along with multiple

fissures on the surface of it and a normal, intact oral mucosa. Initially we looked for the signs of Melkersson-Rosenthal Syndrome but we excluded it based on the absence of macroglossia, fissured tongue and facial paralysis. We performed a cytodiagnostic Slit-Skin Smear technique of which microscopic examination showed no sign of Leishmania parasites, therefore we excluded Leishmaniasis. For a precise diagnosis, an incisional skin biopsy was taken. The histopathological examination revealed a granulomatous reaction pattern, confirming the diagnosis of Granulomatous Cheilitis. Intralesional injections with Triamcinolone acetonide were initiated once a week for 3 consecutive weeks. The patient responded well to the medication. After one month of treatment, the physical examination showed a regression of the swelling and a more superficial fissures of the upper lip. **Discussions :** Because Granulomatous Cheilitis is such a rare disease it is easy to misdiagnose. The most common confusion is made with Angioedema, a condition in which swelling of the lips may also occur but it lasts minutes to hours unlike Granulomatous Cheilitis in which the swelling does not regress. Angioedema may occur also in the throat, causing weezing and breathing difficulty, representing a life-threatening disease. **Conclusions:** One of the main challenges when dealing with a rare disease is misdiagnosis and late accurate diagnosis which leads to a delay in the administration of the right treatment and essentially to the possibility of aggravation of the disease. Also, in rare diseases the spectrum of treatment is narrow, which can hamper the complete healing of the patient. Nevertheless, the Granulomatous Cheilitis patients are living a normal life having only an aesthetic defect to remind them of the disease.

Keywords: Inflammatory reaction, Upper lip swelling, Skin biopsy, Intralesional injections.

TINEA INCOGNITO - THE SUBESTIMATION OF TOPICAL DRUGS USAGE

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Introduction: Tinea incognito is a cutaneous dermatophyte infection which is caused by often misdiagnosing and treating inappropriate an already existent cutaneous infection with topical, systemic steroids or immune-suppressive drugs which causes aggravation of the initial infection, being an example of an iatrogenic disease. **Case Report:** A-70-year-old male patient presented to the Dermatology Outpatient Clinic accusing pruritus and multiple erythematous lesions in the groin and upper leg region. The patient`s medical history reveals that he started using Clobetasol propionate (topical cream) a month ago, prescribed by the family doctor, to treat the same symptoms. We performed physical examination which revealed multiple erythematous infiltrated plaques in the affected regions, having a mean diameter of 3-4 centimeters with a sharp demarcation. The skin scraping microscopic test with potassium hydroxide preparation (KOH prep) shown fungal elements such as Hypha. The patient's medical history, clinical examination and the microscopic findings give us the diagnosis of Tinea Incognito. Before initiating the treatment, we took into consideration the kidney and liver function and the other drugs the patient was already on, to avoid unwanted drugs interactions. We initiated treatment with systemic Terbinafine and Sertaconazole for one month and the symptoms decreased. The examination revealed Post-inflammatory hyperpigmentation in the affected regions. We stopped the systemic therapy (Terbinafine) after one month and we added an additional month of topical treatment (Sertaconazole). **Discussions :** Tinea incognito is a dermatophyte infection modified by the usage of wrong systemic or topical steroid treatment. Misdiagnosis can lead to inappropriate treatment. The prescription of a topical cream should be based on a certain diagnosis. If the diagnosis is unclear, more tests are required for confirmation before prescribing treatment, even for a topical drug. At the same time, not being aware of the effects of a topical drug can lead to the development, in this case, of Tinea Incognito **Conclusions:** Inappropriate usage of topical drugs can be as dangerous as inappropriate usage of systemic drugs. Therefore it is mandatory to establish the correct diagnosis before initiating any treatment because, as in the presented case, inaccurate usage of drugs can lead to the aggravation of pre-existent conditions and we have to be guided by the proverb "Primum non nocere".

Keywords: Tinea incognito, Topical drugs, Fungal infection, Pruritus plaques

INNOVATIVE TREATMENT IN RECURRING BREAST MALIGNANCY, COMBINED WIRA-HYPERTHERMIA AND HYPOFRACTIONATED RE-IRRADIATION – HOW TO PROCEED WHEN EVERYTHING ELSE FAILS? – CASE REPORT

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Introduction: Cancer represents a relentless and highly invasive disease, being considered the 'emperor of all maladies'. Treatment plans are greatly personalized and quite intricate, requiring adaptability and constant advancement. A novel approach regarding unresectable LRBC, locally recurrent breast cancer, consists of combined wIRA-Hyperthermia and Hypofractionated Re-Irradiation. **Case Report:** We describe the case of a female patient diagnosed with locally recurrent breast cancer (LRBC), formerly managed with surgical treatment and subsequent radiotherapy. Firstly diagnosed in April 1998, with invasive mucinous mammary carcinoma, she underwent breast conserving surgery and axillary lymphadenectomy, followed by chemotherapy and a consequent mastectomy in 2000. Recurrences of the chest wall arose in 2002, 2004, 2007 (HR positive, Her2neu positive, IHC3+), requiring excision and reconstruction using latissimus dorsi flap. The chemotherapy treatment with a variation of medications (Herceptin, Trastuzumab, Exemestan, Fulvestrant) was poorly tolerated, as she refused its continuation in January 2021, when a bleeding on the right axilla occurred. The best therapeutic option remained, in this case, small volume radiation of the ulceration in order to perform hemostasis. At the moment of her admission to the Oncology Department of Universitätsklinikum Freiburg, she presented with large progressive multifocal tumor formation in the upper right thoracic wall and right axillary region with progressive infiltration in the adjacent ribs and pleura, as well as the right Subclavian vessels. In order to prevent further advancement of the malignancy, hypofractionated re-irradiation preceded by water-filtered infrared-A superficial hyperthermia has been chosen as the best therapeutic option. **Discussions :** Cumulating radiation with other techniques allows for improved results, as is the case for wIRA-Hyperthermia. In this auspicious manner, the toxicity is diminished, due to the reduction in irradiation doses. The hypofractionated re-irradiation consisting of a total of 20 Gy, disseminated in 5 weekly sessions of 4 Gy each, is preceded by contact-free, superficial hyperthermia, enhancing the antitumor immune response, and augmenting the radiosensitivity of the tumor. **Conclusions:** In conclusion, LRBC is a complex pathology demanding persistency and versatility in finding the proper course of action, as to ensure the well-being and quality of life of the patient, reduce the side effects, and promote curative or palliative efficacy. The combined treatment comprised by hyperthermia and small dose irradiation is not only highly efficient, but quite accessible to patients whose other therapeutic alternatives did not result in adequate remedy, as it is comfortable, pain free, while being potent and presenting fewer risks and toxicity rates.

Keywords: wIRA-Hyperthermia, Hypofractionated Re-Irradiation, Locally recurrent breast cancer (LRBC), Radiotherapy

PERSISTENT PULMONARY HYPERTENSION AFTER PULMONARY ENDARTERECTOMY - A CASE REPORT

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Introduction: Chronic thromboembolic pulmonary hypertension (CTEPH) is an invalidating disease caused by pre-existing conditions; it has an incidence of up to 9.1% in patients with previous pulmonary embolism (within the first 2 years). In cases where pulmonary endarterectomy (PEA) does not produce a permanent improvement, patient-centered pharmacological treatment is the single option. **Case Report:** A 66-year-old female with CTEPH and previous PEA (2005) was admitted for an acute episode of right heart failure. The patient has a thromboembolic background (major thrombophilia with heterozygous factor V Leiden mutation), including an inferior vena cava filter implantation (1997). An atypical atrial flutter converted to sinus rhythm and pacemaker (AAI) implantation was also noted. On admission, medication consisted of loop-diuretics (Furosemide, 160 mg daily), mineralocorticoid receptor antagonists (Spironolactone, 50 mg od), oral anticoagulants, specific drugs (Riociguat+Bosentan, introduced in 2019), and supportive therapy. Physical examination revealed normal blood pressure (115/75 mmHg), arrhythmic heart sounds, severe tricuspid regurgitation murmurs, peripheral edema, and hepatomegaly.

Workup included a 12-Lead rest ECG presenting atrial fibrillation and RBBB. The 24-hour Holter recording did not detect ventricular arrhythmias. Targeted lab test showed a value of 1268.35 pg/mL for NT-proBNP. The 6MWT was stopped after 275 seconds and 300 m walking distance due to exhaustion and dyspnoea. The patient experienced a SpO2 of 84% and a heart rate of 130 bpm, compared to 90% SpO2 and 68 bpm at the start. Echocardiography, apart from displaying severe tricuspid regurgitation and moderate/severe mitral regurgitation, exhibited images of dilated right cavities with right atrium enlargement. The venous Doppler ultrasound confirmed previous bilateral femoral-popliteal-tibio-peroneal deep vein thrombosis with minor signs of repermeabilization. Chest CT-angiography did not demonstrate the presence of thrombi in the main and lobar pulmonary artery branches. Abdominal CT scans revealed stenosis of the IVC at the junction of both renal veins with distal dilations, such dilations also being noted in the bilateral external iliac veins. Adjustment of diuretics (supplementary Furosemide to 240 mg daily) led to symptomatic improvement. The patient was discharged with appointments for follow-up. **Discussions :** In about 25% of CTEPH operable cases, pulmonary hypertension persists after surgery. Few cases benefit from balloon pulmonary angioplasty, which was not indicated in this case. Adjustment of medication by escalating diuretic treatment, along with specific drugs and oral anticoagulation, are the pillars of medical treatment. **Conclusions:** In CTEPH patients, life-long anticoagulation, specific PH drugs, adjustments of diuretics, and other supportive measures are mandatory.

Keywords: right heart failure, chronic thromboembolic pulmonary hypertension, persistent pulmonary hypertension, medical management

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COMBINED TREATMENT FOR RECURRENT HEPATOCELLULAR CARCINOMA

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Introduction: Hepatocellular carcinoma (HCC) is one of the leading causes of death in patients suffering from liver diseases, especially cirrhosis caused by hepatitis viruses. Even with thorough screening programs, HCC still has a high incidence rate. Therefore, the treatment options need to be considered carefully. **Case Report:** A 75-year-old woman with multiple comorbidities (grade III arterial hypertension, coronary artery disease, cerebral small vessel disease and clinical depression) has a history of hepatitis C virus cirrhosis previously treated with Dasabuvir + Ombitasvir/Paritaprevir/Ritonavir. With no follow-up ultrasound (US) screening for HCC, she presents 3 years post-antiviral treatment to the gastroenterology clinic with non-specific symptoms. Liver function test are within normal range, but the baseline Alpha Fetoprotein (AFP) is elevated (>400 ng/ml). The US finds a 5 cm tumoral mass in the hepatic segment VIII in close proximity to the portal vein, which is diagnosed as a hepatocellular carcinoma. Initially she is thought to be eligible for surgical resection, but the laparoscopy declares the tumor unresectable. The next line of treatment is Drug-Eluting Bead Transarterial Chemoembolization (DEB-TACE), which is successful and the patient shows a favorable evolution. During the follow up CT 5 months later, she is diagnosed with a small superficial recurrent nodule, which then treated with 2 sessions of percutaneous Microwave Ablation (MWA). After the second session of microwave ablation, the patient is recurrence free with no additional suspect features on the MRI and CEUS. The liver function and the performance status are preserved, and the AFP has normalized. **Discussions :** In this case, the small recurrent nodule had a favorable location. Being located superficially compared to the initial tumor, it required the use of microwave ablation in addition to the initial chemoembolization. Consequently, the survival rate of the patient increased in spite of the recurrence and she showed a complete remission even in the absence of surgical resection. **Conclusions:** Combined treatment with both transarterial chemoembolization and microwave ablation is shown to have a better survival rate than using only one method alone. In addition, it is a viable alternative to surgery for patients with unresectable tumors or for patients with a poor performance status, deemed unfit for surgical resection.

Keywords: Hepatocellular carcinoma, MWA, DEB-TACE

DOPPLER ULTRASONOGRAPHY: A NON-INVASIVE METHOD USED FOR MONITORING A YOUNG PATIENT WITH A CAVERNOUS PORTAL VEIN TRANSFORMATION

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Introduction: Cavernous transformation of portal vein refers to collateral vessel formation around the portal vein and its tributaries after being completely or partially blocked. This is a compensatory lesion to ensure liver blood flow and function, and its main complication is chronic portal hypertension (PTH). Ultrasonography demonstrates that the portal bifurcation may be replaced by an echogenic structure with multiple small tortuous vessels. Studies show that many congenital cases are caused by embryological malformations. **Case Report:** We present the case of a 22-year-old male patient who was diagnosed with a cavernous transformation of the portal vein at 2 years of age. Later, he developed portal hypertension, thrombocytopenia and hypersplenism at the age of 3. Our patient was admitted to the hospital in numerous occasions for life threatening hematemesis and melena due to variceal bleeding and underwent several times variceal ligation. In the case of our patient, the exact factor causing the portal vein was idiopathic, but it is known that our patient was born premature at 28 weeks of gestation. At the age of 13, our patient underwent surgery, and the Warren Shunt (anastomosis of the splenic vein and the left renal vein) was performed to lower the PHT. After the surgery, he did not present gastrointestinal bleeding or any other complications due to PHT and his general state was stable. The patient has to monitor his liver disease, every three/six months, all his life. **Discussions :** In this research, we want to lay emphasis on the importance of colour and /or pulsed Doppler sonography to evaluate the blood flow in the cavernous portal vein transformation, in its segmental branches, in the hepatic vein and examine the spleno-renal shunt. **Conclusions:** Abdominal Doppler ultrasonography is the single most useful tool for monitoring a cavernous portal vein transformation in a young patient, due to its non-invasive, generally painless, and indefinite repetitions compared to other radiation-based imaging techniques.

Keywords: cavernous portal vein transformation, ultrasonography, portal hypertension

AN UNUSUAL PRESENTATION OF BULLOUS EMPHYSEMA

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Introduction: Emphysema is a permanent enlargement of alveolar space distal to the terminal bronchiole because of a loss of distal lung architecture and is associated with a limitation in airflow. Emphysema can be predominant in COPD (chronic obstructive pulmonary disease). A bulla is a space of more than 1 cm in diameter filled with air which resides within the lung and has developed because of emphysematous destruction of the lung parenchyma. The aim of our case report is to showcase an unconventional presentation of male young-onset bullous emphysema. **Case Report:** We present the case of a 23-year-old Caucasian male with no significant family history of lung diseases, no genetic predisposition, no allergies and who is a non-smoker which presented with progressive dyspnea during moderate tasks, asthenia and dry cough, intermittently productive. On inspection the patient is underweight and has thoracic pustules. His thorax has a normal conformation (unlike the usual presentation of bullous emphysema) without rales but bilateral vesicular breaths with increased intensity are present. After received the complete blood count a mild form of anemia, lymphocytopenia with neutrophilia and inflammatory syndrome, were identified.The spirometry showed mixed ventilatory dysfunction with mild restriction and moderate obstruction in the central area and moderate-severe obstruction in the periphery and FEV1 reduction of 63%. The alveolar-capillary gas exchange is reduced with 33% (mild severity). The CT scan shows bilateral and asymmetric involvement of the lungs. The sputum is negative for mycobacterium tuberculosis and the microbial flora is non-specific. The patient has been diagnosticated with bilateral bullous emphysema and also with seborrheic dermatitis The patient was given antibiotics, systemic corticosteroids, antitussives, pain relievers and vitamin B complex showing improved post-treatment state. **Discussions :** Medical doctors should continuously choose to report out of the ordinary cases like the one presented in our poster, to further help the understanding and treatment of emphysema as well as identifying potential risk factors for the disease and correlated pathologies. **Conclusions:** Even though bullous emphysema is usually associated with smoking and alpha-1 antitrypsin

deficiency medical professionals should always take into consideration unusual presentations of the disease and choose the optimal treatment plan despite it being palliative and not curative.

Keywords: bullous emphysema, mixed ventilatory dysfunction, FEV1 reduction

PULMONARY EMBOLISM IN THE CONTEXT OF COVID-19 INFECTION

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Introduction: COVID-19 is a lower respiratory tract infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and is one of the main current health problems worldwide. This disease can impact the cardiovascular system, consequences of this infection being associated with a significantly increased risk of pulmonary embolism, even in patients receiving prophylactic anticoagulants. **Case Report:** We present a case of a 45-year-old woman without other previous pathologies but with recent COVID-19 infection who showed up at the hospital on day 14 with a sudden onset of dyspnea. Emergency examinations were performed, with a computed tomography pulmonary angiography showing a pulmonary embolism and positive thrombophilia tests. The EKG shows inverted T-waves in V1-V6 specific to pulmonary embolism. In particular, the echocardiographic diagnosis remained negative and the D-Dimers were unreacted. **Discussions :** Patients with thrombophilia are at increased risk of acute pulmonary embolism, particularly among young individuals. As part of the hyper-inflammatory state, COVID-19 infection increases susceptibility to it too due to hypoxia, immobilization and diffuse intravascular coagulation contributing to rapid clinical deterioration or demise. What is particular about this case is that the negative D-Dimers do not rule out the possibility of a pulmonary embolism, although it is known that a negative result always excludes this diagnosis. In the context of COVID-19 infection it was found that D-Dimers are always raised, which makes this case particular again. **Conclusions:** Pulmonary embolism has multiple causes, but nowadays COVID-19 virus infection predisposes to additional thrombus formation. Although the evaluation of D-Dimers considered to be the gold standard in the detection of pulmonary embolism was negative, clinical persistence should be our impulse to continue to look for a possible diagnosis and to conduct further investigations. Her pulmonary embolism may be caused by the pro-coagulant condition due to COVID-19 infection and the minor thrombophilia that she did not know about. The patient with thrombophilia is at increased risk of embolism. Therefore, to reduce the risk of pulmonary embolism, we can consider early detection of thrombophilic defects and perseverance in adding additional investigations to confirm the diagnosis.

Keywords: COVID-19, pulmonary embolism, D-Dimers, thrombophilia

HEART FAILURE – POINT OF NO RETURN?

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Introduction: Heart failure is one of the leading causes of morbidity and mortality, a debilitating chronic disease that results from a functional or structural heart disorder affecting ventricular filling or ejection of blood to the systemic circulation. Constant progression is the determining factor in heart failure outcome. Permanent optimization of pharmaceutical regimens and their fine regulation try to maintain these compensatory mechanisms in a physiological range. Over time, a complex drug and interventional treatment has been developed, delaying heart decompensation as long as possible. **Case Report:** We present a case of an 81-years-old man, with documented non-ischemic dilated cardiomyopathy, permanent atrial fibrillation with medium ventricular allure, III grade of tricuspid and mitral regurgitation receiving complete drug treatment. Nevertheless, he had multiple requests in the Emergency Department for decompensation of heart failure. The latest he showed up at the hospital with dyspnoea, pallor and poor general condition. The EKG showed hyper-acute T waves in the septal territory and a left axial deviation. Due to the dynamic of biomarkers (BNP and MYO), significant lymphocytopenia and a slight change of the coagulation function we decided to readjust his treatment. **Discussions :** Heart failure is a gradual but certain decompensation of the cardiac function. The treatment can be palliative, improving the quality of life, but once it occurs the degradation is secured. Atrial fibrillation, despite maximal treatment, is a sign of aggravation of the heart failure. Another sign of worsening is represented by the persistence of this atrial fibrillation, an arrhythmia that can no longer be converted with drugs or cardioversion. As this pathology is a central point of interest in the field of cardiology, 2 new guidelines have been developed in the last decade. **Conclusions:**

The patient was discharged with a clearly improved general condition, with recommendations, including maximum treatment with anticoagulants, conversion enzyme inhibitors, beta-blockers and diuretics. Over time, the treatment was adjusted according to current guidelines, replacing antivitamin K with dabigatran and conversion enzyme inhibitors with neprilizine inhibitors. Although the therapy has been adjusted and there is a considerable improvement of the patient's symptomatology, he has still an impaired fraction of the left ventricular ejection.

Keywords: heart failure, atrial fibrillation, ventricular ejection

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USUAL INTERSTITIAL PNEUMONIA PATTERN ASSOCIATED WITH GROUND-GLASS OPACITIES ON CT SCAN

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Introduction: Idiopathic pulmonary fibrosis represents a specific form of chronic, progressive, fibrosing interstitial pneumonia of unknown cause. It correlates with the histopathologic and radiologic pattern of usual interstitial pneumonia (UIP). CT features frequently seen in UIP include honeycombing, traction bronchiectasis and traction bronchiolectasis, which may be seen with the simultaneous presence of ground-glass opacification and fine reticulation. The aim of this paper is to present the case of a 74-year-old patient with suspected UIP whose CT scan findings are not entirely specific for this diagnosis. **Case Report:** A 74-year-old woman was referred to the hospital due to exertional dyspnea, productive cough, and decreased exercise tolerance. The patient history included pulmonary fibrosis recently diagnosed on X-ray and arterial hypertension. She had no family history of pulmonary pathology and no particular exposure to toxic environment. The clinical examination described finger clubbing and bibasilar inspiratory crackles. The CT images showed peripheral-predominant traction bronchiectasis and bronchiolectasis, honeycombing and ground-glass opacities. In addition, peripheral centrilobular micronodules were found in the lingula. Serological testing performed to exclude collagenoses was negative. As a result of the unspecific CT findings, a bronchoalveolar lavage was performed during fiberoptic bronchoscopy and revealed an increase in total cell count and the presence of Mycobacterium tuberculosis. Specific antimycobacterial therapy was initiated and the evolution was favorable. **Discussions :** CT imaging represents a key step in the diagnostic approach for UIP. Ground-glass opacification may be present in patients with UIP, but it is not a dominant feature. An alternative diagnosis should be considered in case of extensive ground-glass abnormality, marked mosaic attenuation, profuse micronodules, or centrilobular nodules. Bronchoalveolar lavage is not required when a typical UIP pattern is found, but it can be a helpful tool when investigating a possible infection, malignancy or acute exacerbations. **Conclusions:** Ground-glass opacities on the background of the UIP pattern are not unusual findings on CT scan. This case highlights the importance of additional investigation for a confident diagnosis.

Keywords: usual interstitial pneumonia, honeycombing, ground-glass opacities, bronchoalveolar lavage

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MIRROR IMAGE OF A RIGHT LUNG CANCER ON THE LEFT LUNG: A CASE REPORT

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Introduction: Lung cancer is the leading cause of cancer releated deaths and squamous cell carcinoma (SCC) is one of the most common types of lung cancer. **Case Report:** Our aim is to present a 57 year old man presented to the Pulmonology Clinic of Targu Mures with a persistent nocturnal dry cough, unintentional wight loss of 9 kg over the preceding month and loss of appetite with onset of about 2 months. He is known from his personal pathological history with bronchopulmonary neoplasm of the right lung (squamous cell carcinoma) that was successfully operated, radio and chimiotreated in 2016, with a favorable evolution. It is important to know that the patient is a former smoker, with a 30 pack year history of tabacco smoking and also with long exposure to respiratory toxins (he worked in furniture industry and now is working in a construction factory). A chest X-ray showed a left parahilar opacity that sends extensions in the lung parenchyma. Computer tomography of the chest and abdomen with administration of contrast material performed 2 weeks after radiography revelas partial right pneumectomy with no signs of local recurrence, no liver or bone metastases, along with a left apical lung node of about 6 mm and perivascular lingular lymphadenopathy was also present. Fibrobronchoscopy is performed and findings shows the

blunt of lobectomy of intermediate lobe and middle lobe. The bronchoscopy also shows at the level of the left upper lobe the infiltration of the interlinguloculminal spur, and the lingula's lumen completely obstructed by a necrotic vegetative process. The procedure ends with biopsy sampling at this level, revealing squamous carcinoma. The patient is discharged with recommendation for oncological and surgical. **Discussions :** The particularity of the case is represented by a second diagnosis of pulmonary squamous cell carcinoma, considered to be without causal connection with the first. Despite the evolution of diagnostic and treatment methods, risk factors and genetic inheritance play a particularly important role in the prognosis of squamous cell lung carcinoma. **Conclusions:** Even if all the treatment measures (surgery, radio and chemotherapy) were instituted in time for the right lung neoplasm, and the evolution was favorable for 6 years, our patient is facing a new proliferative process in the left lung, outlining the particularly high frequency of squamous cell carcinoma.

Keywords: lung cancer, squamous cell carcinoma, cigarette smoking, genetic inheritance

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MANAGEMENT OF HEMOCHROMATOSIS IN A PATIENT WITH NONSPECIFIC CLINICAL SYMPTOMS - CASE REPORT

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Introduction: Hereditary hemochromatosis is an autosomal recessive disorder leading to iron overload in parenchymatous organs, eventually causing organ failure and death. The classical triad consisting of skin hyperpigmentation, diabetes, and liver cirrhosis is nowadays rare, musculoskeletal symptoms being common in HFE-related hemochromatosis. Typically the second and third metacarpophalangeal joints and the wrist, hip, and ankle joints are affected. **Case Report:** We present a 48-year-old patient, former smoker, occasional user of ethanol, known with associated cardiovascular, nephrological and metabolic pathology. From the family history, we mention the mother who suffers from rheumatoid arthritis. Two years ago the patient complained of the onset of joint pain accompanied by swelling at the level of the second and third right metacarpophalangeal and interphalangeal joints. In 2018 the patient presented himself for the investigation of a hepatocytolysis syndrome and at the time of hospitalization he still had arthralgias, accompanied by fatigue and edema in the lower limbs. The symptomatology worsened for about 3 weeks before hospitalization. Clinical examination revealed important elements such as skin melanoderma, axillary acanthosis nigricans, and discrete scleral jaundice. Paraclinical examinations confirmed the hepatocytolysis syndrome (ALT 115 U/L; AST 72 U/L). In addition, a cholestasis syndrome was present (GGT 172 U/L; ALP 202 U/L) and as key elements in diagnosis, we had the iron and ferritin blood concentrations of 356µg/mL and 2942ng/mL respectively. Abdominal ultrasound showed hepatosplenomegaly and an enlarged portal vein (Ø=15mM). An upper digestive endoscopy was also performed, which revealed grade I esophageal varices. From the treatment point of view, phlebotomies were the first intention. Genetic testing strengthened the other tests and showed that the patient is also homozygous for the C282Y mutation in the HFE gene. The following steps would be the dispensing and monitoring both from the gastroenterological as well as the rheumatological part. **Discussions :** In this paper, we want to evaluate the clinical and paraclinical aspects of the patient with hemochromatosis and emphasize the importance of early diagnosis as well as the exclusion of other ones based on similar symptoms. **Conclusions:** Proper and early diagnosis of the disease can save a patient's life and also ensure an improved quality of life. HH arthropathy has unfortunately a distinct reaction to therapy.

Keywords: Hemochromatosis, Cirrhosis, C282Y mutation, Arthropathy

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THE IMPORTANCE OF DIFFERENTIAL DIAGNOSIS BETWEEN SQUAMOUS CELL CARCINOMA, SEBORRHEIC KERATOSIS AND NODULAR CHONDRODERMATITIS

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Introduction: Squamous cell carcinoma (SCC) is a locally distructive malignant tumor of the epidermal keratinocytes that invades the dermis with predilection to sun-exposed areas such as the external ear. In such cases a differential diagnosis with non-malignant lessions is possible. Seborrheic keratosis (SK) is a very common cutaneous benign growth lesion acquiring a papillomatous morphology and varying degrees of pigmentation.

Nodular chondrodermatitis (CNH) is a common, benign, painful inflammatory condition of the skin and cartilage of the ear. **Case Report:** We report the case of a 74-year-old patient who presented to the Dermatology Clinic with a 3-month-old dark, hyperkeratotic, nodular lession located on the antehelix. In order to establish an accurate diagnosis and rule out malignancy, an integrated clinico-dermoscopic and histological diagnostic approach was preferred. The lesion was surgically removed. **Discussions :** Upon clinical exmaination the lession presented similar characteristics with the brown-blackish wart-like growths present in SK or with the scaly or bleeding nodule in CNH which makes it difficult to identify malignancy. The patient didn't present any pain or associated lymphadenopathy. Dermoscopically, the central yellow keratin mass, structureless white areas and hairpin or irregular vessels are useful clues to differentiate SCC from the white milia-like cysts, fissures and ridges characteristic to SK. When faced with CNH there are not many features that differentiate the two, except for the white thick lines, radially arranged, converging to a central rounded yellow/brown erosion present in CNH. An excision was performed with consequent histopathological examination which identified a solid tumoral proliferation composed of squamous cells underneath a keratinized stratified squamous epithelium. The tumoral cells were well defined, with abundant eosinophilic cytoplasm and large pleiomorfic nuclei, establishing the diagnosis of well-differentiated infiltrating SCC. The tumor invaded the deep resection edge, therefore reexcision was recommended. Hyperkeratosis and acanthosis are present both in SH and CNH, the first one presenting horn pseudocysts of loose keratin and papillomatosis, while CNH presents specific central ulceration lined with granulation tissue. Both present a well defined border with the underlying dermis. **Conclusions:** Making a differential diagnosis between squamous carcinoma and non-malignant lessions is not an easy task considering the clinical similarities. Even though dermoscopy is useful, the identification on biopsy specimen of squamous cells in different stages of differentiation and tumoral infiltration of deeper layers is the most important examination that concludes the diagnostic.

Keywords: Squamous cell carcinoma, Dermoscopy, Histopathology, Benign tumors

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CONGENITAL 3RD DEGREE AV-BLOCK IN AN INFANT FROM A MOTHER WITH SJOGREN'S SYNDROME

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Introduction: Atrio-ventricular block (AV-block) is an electrical conduction disorder of the heart, characterized by delayed or absent electrical impulses from atria to the ventricles. This block can occur at various sites along the conduction pathway of the heart: it can affect the AV node, the His bundle along with the branches that deliver impulses to the ventricles. With this clinical case , we would like to emphasize some critical aspects regarding the diagnosis and treatment protocols in congenital atrio-ventricular block **Case Report:** We present the case of a 5 month-old male infant known from his fetal period with high-degree AV-block, which was also confirmed after birth. Recent personal history suggests that the child had SARS-COV2 infection. From his family history we highlight his mother's autoimmune pathology. She was diagnosed with Sjogren's syndrome during pregnancy. The patient also associates a mild dilatative cardiomyopathy, foramen ovale patent and malformation of the aortic valve. **Discussions :** The clinical evolution is favorable, the patient is gaining weight. The somatic development is favorable despite the associated heart pathology. The patient was discharged as the echocardiography and Holter EKG parameters, combined with clinical and anamnestic data, showed that there is no indication for a pacemaker device implant. **Conclusions:** The particularity of this case lies within the therapeutic decision to delay the implantation of a pacemaker in a child with 3rd degree AV-block from a mother with autoimmune disease.

Keywords: Congenital AV-Block, Infant, 3rd degree AV-Block, Sjogren's syndrome

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METABOLIC EFFECTS OF ISOCALORIC, INDIVIDUALIZED LOW-CARB VERSUS LOW-FAT DIETS IN PATIENTS WITH OBESITY AND TYPE 2 DIABETES MELLITUS

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Introduction: Background:Overweight and obesity are key elements of the etiology of Type 2 diabetes (T2DM). There is an ongoing debate whether low-carbohydrate or low-fat diets are more beneficial from a metabolic point of view. **Case Report: Objective**: The aim of this study was to investigate the impact of low carb versus low fat diet

in patients with T2DM and obesity on metabolic parameters. **Discussions : Material and methods**: Our interventional study was performed on 48 T2DM and obese patients. We included participants who had T2DM, a BMI>28 kg/m2, age between 25-80 years, and who signed the letter of consent.The exclusion criteria were: congestive heart failure stage III-IV, chronic kidney disease stage IIIB-V, diuretic therapy, pregnancy, treatment impacting weight. The 48 patients were divided in 3 groups: 1. Low-carb: -700kcal from carbs, 2. Low-fat: -700kcal from fat, 3.-contol group: no diet.Out of the studied group, 15 patients in the low-fat, 13 patients in the low-carb group and 17 patients in the control group.The diet was chosen after taking a nutritional history from the patients, then an individualised diet based on preferences and common agreement was designed.Glycaemia, glycated hemoglobin, blood pressure, pulse, body mass index, abdominal circumference, blood lipids were recorded before the diet and after 3 months. Nonparametric paired and independent T tests were performed.**Results**: In patients with low-fat diet there were no significant changes in metabolic parameters over the 3 months, and the changes did not differ from that in the control group. However, within this group the abdominal circumference improvement correlated with the trigliceryde improvement (p=.04, r=775). In the patients receiving low-carb diet the abdominal circumference and the BMI significantly decreased (p<0.00 and <0.01). The improvement was significantly better compared to the control (p<0.02 and <0.004). In the low carb diet the BMI was significantly correlating in a positive way with the HbA1c changes (P=.008, r=.883). **Conclusions:** Conclusion: In our study individualized, moderately hypocaloric low carb diet was more beneficial on metabolic parameters then same calorie low-fat diet.

Keywords: diabetes mellitus, low-carbohydrate diet, low-fat diet, obesity

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SEX DIFFERENCES OF THE METABOLIC EFFECT OF TWO LOW-CALORIE DIETS IN PATIENTS WITH TYPE 2 DIABETES AND OBESITY.

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Introduction: Background: Type 2 diabetes mellitus is frequently associated with overweight/obesity. Metabolic profile of these patients is different in men and women. A proper, hypocaloric diet is crucial in controlling weight, blood sugar levels and lipids. **Case Report: Objective:** The purpose of this study was to investigate the potential differences of two different types of hypocaloric diets on metabolic and anthropometric parameters in patients with type 2 diabetes in men compared to women. **Discussions : Material and methods**: We performed an interventional study on 48 patients all of them diagnosed with type 2 diabetes and obesity, 23 were men (47,9 %) and 25 were women (52,1 %). The inclusion criteria were: participants who had T2DM, a BMI>28 kg/m2, age between 25-80 years, and who signed the letter of consent. The exclusion criteria were: congestive heart failure stage III-IV, chronic kidney disease stage IIIB-V, diuretic therapy, treatment impacting weight, pregnacy and chronic digestive diseases that cause complaints . The 48 patients were divided in 3 groups: one receiving a low-carbohydrate diet (700-Kcal deficit from carbohydrates), one a low-fat diet (700-Kcal deficit from fat) and a control group. The patients were classified in groups based on a nutritional assessment and their diet was personalised based on their eating habits and common agreement. Out of the studied groups, 15 patients were in the low-fat, 13 - in the low-carb and 17 - in the control group. Metabolic (HbA1c, serum glucose, total cholesterol, triglyceride, LDL and HDL levels) and anthropometric (Weight, height, body mass index-BMI-, and abdominal circumference) parameters of patients before and after the 12-week of hypocaloric diet were documented. Participants also completed questionaries to obtain information regarding their compliance. The statistical analysis was performed using nonparametric tests in Microsoft Excel and SPSS. **Results:** The mean age of the patients included in the study was 61,52 ± 10,6 years. Women had a significantly better compliance then men. In the low carb diet group, there was a significant change in BMI and waist circumference, but there were no differences regarding the metabolic effect between the two sexes. However, within the low-fat diet group only the women had a significant decrease in abdominal circumference (p=0.04) and BMI (p=0.019) and there was no significant change in men. **Conclusions: Conclusions**: Results from our research show that women were more compliant, and their anthropometric parameters reacted better to low fat diet then men. Our data need to be confirmed and investigated in further extensive population studies.

Keywords: Diabetes, Diet control, Weight loss, Obesity

MODERATE WEIGHT LOSS AND ANEMIA – COMPLICATIONS IN DELAYED DIAGNOSIS OF CROHN'S DISEASE

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Introduction: Crohn's disease is an autoimmune inflammatory pathology which affects any part of the digestive tract, but mostly the terminal ileum and colon, being characterized by chronic inflammation. The main symptoms occurring are anemia, diarrhea, weight loss and abdominal pain. **Case Report:** A 20-years-old female patient known with hypothyroidism under treatment for 1 year, treated for perianal fistula which relapsed and secondary anemia was admitted in the Gastroenterology department complaining about diarrhea, 2-3 watery stools everyday for the last couple of months, weight loss of 7 kg in 2 years, abdominal pain, nausea and vomiting. During the hospitalization several tests were run, including upper gastrointestinal endoscopy revealing gastric ulceration and a 2 cm esophageal hiatal hernia with reflux esophagitis class A Los Angeles. The colonoscopy identified ulcerations located in the terminal ileum with a length of 10-15 cm, at about 50 cm from the anus with a surface of 2x2 cm in the splenic flexure, at 25 cm in sigmoid colon, in rectum and anal fistula. The patient had a set of blood and stool sample tests done before hospitalization which showed a Hgb value of 10 g/dL, thrombocytopenia, a high level of fibrinogen, ESR and CRP, a low level of serum iron and a high value of fecal calprotectin. Considering the clinical context and the investigations' results, the diagnosis of Crohn's disease was made in addition with secondary anemia, malabsorption syndrome and anal fistula. During the hospitalization, gastric, intestinal and colon biopsies were taken and the patient was given medication for inflammatory bowels disease. Treatment with Humira 40 mg was further initiated without having any side effects. The evolution was favorable. **Discussions :** Due to the long delay in diagnosis, the patient's symptoms have worsened leading to weight loss, anemia and recurrent anal fistula. The intestinal and extraintestinal manifestations of Crohn's disease can lead to unfavorable evolution of the symptoms, including the risk of developing small bowel and colorectal cancer, so it is crucial for the disease to be recognized and treated as early as possible. **Conclusions:** This paper highlights the importance of proper management techniques in order to diagnose and treat the Crohn's disease, before serious complications arise.

Keywords: Crohn's disease, malabsorption syndrome, anemia

RIGHT CORONARY ARTERY ANOMALOUS ORIGIN IN A PATIENT WITH NONSTEMI MIOCARDIAL INFARCTION

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Introduction: The prevalence of anomalous coronary artery from the opposite sinus (ACAOS)is less than 1% in the general population .More frequently the right coronary artery originating from the left coronary sinus has a better prognosis. These type of anomalies may be isolated defects or accompany other congenital malformations of the heart . **Case Report:** a 53-year-old patient, without any personal pathological history, is brought into the emergency service for previous chest pain with pressure, stinging, with onset 10 days ago, with worsening of symptoms during physical exertion (mountain climbing). EKG presentation showing sinus rhythm, ventricular rate of 79 beats/ min, intermediate axis\QRS, negative T wave in DIII, ST segment elevation of 1 mm in V1. Other paraclinical examinations such as echocardiography(echo) had no modiffication of kinetics, only cardiac enzymes being acutely raised. Further percutaneous coronary intervention (PCI) and Angiographic CT discovered the following alterations: 30% eccentric stenosis in the first segment of left anterior descendant artery (LAD), ostial thrombus residue in first septal artery and a non-oclusive thrombus on the apical segment of the same. Interestingly, right coronary artery displayed no angiographic lesions but found its origin in the left coronary sinus having an interaortopulmonary passage. The patient was given the diagnosis of NonSTEMI Miocardial Infarction with an aberrant orrigin of the right coronary artery. Following protocol guidelines ,we opted for DAPT and ACO drug treatment for 1 month, with subsequent angiocoronarographic reassessment. Regarding the malformation, no indication to perform surgery was needed. He was discharged in a good general condition, with recommendations. After a month, coronary reevaluation revealed the absence of thrombus. **Discussions :** This type of anomaly is

malignant one conerning the RCA passage between the pulmonary and aortic artery that creates more pressure at the wall and diminishes vascular flow at exertion. Even if a diagnosis of a rare malformation was made, cardiac surgery didn't come through since the patient never had any visible restrictions. **Conclusions:** Computed tomography (CT) angiography facilitates the recognition and therapeutic planning of such anomalies because of its ability to acquire high-resolution images of the entire course of the coronary artery, as well as of the accompanying atherosclerotic involvement. Reviewing the case literature, treatment for these cases remains conservative owning to the fact that they are asimptomatic.

Keywords: anomaly, coronary, tomography, conservative

ERYTHEMA DYSCHROMICUM PERSTANS: A CASE REPORT

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Introduction: Erythema dyschromicum perstans (EDP) is a rare skin condition that usually affects patients with darker skin tones (Fitzpatrick phototypes III-IV). Its etiology is unknown, and it has clinical and histopathological similarities with pigmented lichen planus and Riehl's melanosis. EDP is a pigmentation abnormality which results in gray/brown macules appearing on several parts of the body, regardless of the sun's exposure. During the early stages of the disease, these patches or plaques present an erythematous and somewhat elevated border. The aim of this paper is to draw attention to the appearance of such peculiar skin disease on a patient with a lighter phototype. **Case Report:** We present the case of a 73-year-old man, with Fitzpatrick phototype II, who was admitted in the Dermatology Clinic for the appearance of well-defined ashy-brown, oval-shaped, symmetrical patches and plaques on his face, trunk, and abdomen, in evolution for a year. The clinical examination didn't identify any other changes. The laboratory tests revealed an elevated white blood cell count and the chest X-ray showed hilar enlargement. Two biopsies were performed: an 8 mm in diameter punch biopsy from his right prawn and a 20 mm incisional biopsy from his left forearm. The histopathological examination revealed orthokeratosis of the squamous epithelium and stratum spinosum' acanthosis. A brown pigment was identified intracellular and extracellular and after Pearl's reaction, it was proved to be melanin. Therefore, the diagnosis of EDP was established. The patient was started on topical treatment with methylprednisolone aceponate cream twice a day and systemic treatment with antihistamines and low doses of prednisone, with an overall improvement of his skin lesions upon further check-ups. **Discussions :** Even if EDP is specific for people with darker skins, people with lower Fitzpatrick types can also develop it, such as the case of our patient. **Conclusions:** EDP isn't a debilitating condition in any form, but there is no known treatment for it. Studies show that local treatments such as chemical peels, topical steroids, ultraviolet radiations exposure and general ones like corticosteroids, clofamizine and griseofulvine might improve this condition.

Keywords: Melanosis, Macules, Pigment, Corticosteroids

UNEXPECTED EOSINOPHILIC COLITIS IN 66-YEAR-OLD PATIENT

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Introduction: The eosinophilic colitis is part of an inflammatory spectrum diseases which is characterized by abundant eosinophilic accumulation in the mucosae of the digestive system, in the absence of eosinophilia and other eosinophilic lesions of other extra digestive organs. **Case Report:** Male patient, 66 years old presented himself in the internal medicine ward with intermittent diarrhea which started 3-4 days ago, abdominal discomfort and meteorism in the past 2 years. He is known with arteriosclerotic ischemic heart disease NYHA II and sigmoid adenocarcinoma treated with surgery and chemotherapy (XELOX). The clinical examination revealed: an IMC=27,3 kg/m^2, post operatory abdominal hernia, holosystolic apical sound grade ¾ and arterial tension of 135/75mmHG. The blood tests showed an inflammatory nonspecific syndrome and dyslipidemia. Echocardiography and EKG were conducted, and the results were specific for his pathology. Hepatic steatosis and hemangioma were discovered after performing an abdominal US. The Inferior endoscopy had revealed plane lesions on the cecal and transversal colon mucosae of 3-4 cm^2 so a biopsy was taken. The results were concluding for eosinophilic colitis. The evaluation included allergology tests and they shown that the patient had no allergies.As for diagnosis: eosinophilic colitis at pouch and sigmoid colon, hepatic steatosis, hemangioma in the

4th segment of the liver, mixt dyslipidemia, ischemic heart disease, dilatative cardiomyopathy, chronic rhinitis and treated sigmoid adenocarcinoma with post operatory abdominal hernia.The treatment consisted of Prednisone 15mg/day for 4 weeks and Pantoprazole 40mg/day, in the morning. After 8 weeks, the patient returned to the hospital and the investigations revealed favorable evolution with the prescribed medicine. **Discussions :** The eosinophilic cells are present in the mucosae of all the digestive system (exception: esophagus). They play an important role, being part of the immune system. Their population can increase in numerous inflammatory diseases like Chron's Disease, myeloproliferative neoplasms or eosinophilic syndrome.Studies suggest that the prevalence of eosinophilic gastroenteritis in the USA is 18/100.000, but just 3,3/100.000 develop colitis.The symptoms of eosinophilic colitis are nonspecific like nausea, abdominal pain, vomiting and diarrhea. The diagnosis is put by the results of the biopsy report (more than 20 eosinophils/microscopic field). The macroscopic picture of the mucosae is normal. **Conclusions:** The patient had a suitable outcome of the eosinophilic colitis even if he had had sigmoid adenocarcinoma.

Keywords: eosinophilic, colitis, adenocarcinoma, immunity

AGGRESSIVE MEDULLARY THYROID CARCINOMA-A CASE REPORT

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Introduction: Medullary thyroid carcinoma (MTC) is a rare neuroendocrine tumor accounting for 2 □□– of all malignant thyroid neoplasms. It originates from thyroid C cells and may be sporadic or genetically inherited, as part of the multiple endocrine neoplasia 2 (MEN 2) syndrome. Germline mutations of the RET (REarranged during Transfection) protooncogene are detected in over 95% of MEN 2 cases. This familial type of MTC is usually associated with multifocal C-cell hyperplasia. **Case Report:** We report the case of a 37-year-old male who presented to the endocrinology clinic for dizziness. The ultrasound examination of the thyroid detected a 20 mm hyperechoic nodule in the right thyroid lobule. Fine needle aspiration cytology, associated with high serum calcitonin level (>2000pg/ml) were very suspicious for MTC. A total thyroidectomy with central neck dissection was performed at the Surgical Department of the Emergency County Hospital, Târgu-Mureș. Due to diffuse bone pain and multiple osteolytic lesions on pelvic bone detected by computerized tomography, a biopsy from left iliac crest was performed. Both specimens were sent to the Pathology Department. **Discussions :** On gross examination, the right thyroid lobe presented a whitish, ill-defined nodule with a diameter of 20 mm. On microscopy the nodule consisted of round or elongated tumor cells, slightly fusiform with abundant, eosinophilic, finely granular cytoplasm. The nuclei were generally round, with a visible nucleolus. In the center, the nodule displayed desmoplazia, amyloid deposits and calcifications. In the same lobe multiple foci of neoplastic C cell hyperplasia were noticed and the central neck dissection revealed lymph nodes with metastasis. On immunohistochemistry the tumor cells and the foci of neoplastic C cell hyperplasia strongly expressed Chromogranin, Calcitonin and Carcinoembryonic Antigen (CAE) and were negative for Thyroglobulin. Biopsy of the bone lesion revealed tumor cells with similar microscopical aspect and immunohistochemical expression as the thyroid tumor. Based on these findings a diagnosis of MTC with lymph node and bone metastasis was made. Further investigation detected RET protooncogen mutation. **Conclusions:** The presence of metastasis (nodal and distant) is the hallmark of the aggressiveness of MTC and is a well-known negative prognostic factor for evolution. Genetic assessment of RET germline mutation in patients with MTC is mandatory in order to detect familial MTC and to receive an adequate treatment as soon as possible.

Keywords: familial MTC, neoplastic C cells hyperplasia, RET mutation, metastasis

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CASE REPORT: INTRACRANIAL INFLAMMATORY MYOFIBROBLASTIC TUMOR IN A CHILD

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Introduction: Inflammatory myofibroblastic tumor (IMT) is a mesenchymal tumor with a predilection for the lung and abdominopelvic region. IMT rarely involves the central nervous system, and it is more often seen in children and young adults. We present a rare case of intracranial inflammatory myofibroblastic tumor with negative expression of anaplastic lymphoma kinase. **Case Report:** A 5-year-old boy was brought to the Emergency Hospital for epileptic seizures and altered mental status. Brain magnetic resonance imaging (MRI) demonstrated

an isointense mass heterogeneously enhanced with gadolinium located in the left temporal lobe, and being in contact with the meninges, as well as minimal perifocal edema, the lesion measuring 28 x 17 x 24 mm. The patient was submitted to the Neurosurgery department and tumor resection was decided. The specimen was sent for histological examination. **Discussions :** Histologically, the tumor was composed of short fascicles of spindle cells arranged in a storiform pattern associated with rich collagen fibers stroma and prominent lymphoplasmacytic infiltrate. Immunohistochemically, neoplastic cells showed positivity for Vimentin, SMA, and BCL-2 whereas there was no immunostaining with ALK. The histological aspect and the tumor cells' immunophenotype confirmed the diagnosis of inflammatory myofibroblastic tumor. The patient recovered well after the surgery, and no recurrence was found in the following 3 months of follow-up. **Conclusions:** Given the fact that there are few cases of intracranial inflammatory myofibroblastic tumor reported in the literature and also because of its nonspecific symptoms or imaging features, the final diagnosis usually relies on histopathological examination.

Keywords: inflammatory myofibroblastic tumor, intracranial, Anaplastic Lymphoma Kinase

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NON-COMPACTION CARDIOMYOPATHY ASSOCIATED WITH MALIGNANT OVARIAN TUMOR

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Introduction: Non-compaction cardiomyopathy is a primary cardiomyopathy with a sponge-like aspect, with structure of an enlarged ventricular wall and loss of function. The myocardia is composed of a thick layer of non-compaction myocytes and a thin sheet of compact myocytes. Macroscopically, the heart-walls contain intertrabecular recesses that restrict the ventricle from functioning properly. The outcome includes heart failure, atrial and ventricular arrhythmias, and thromboembolic accidents. **Case Report:** A 48-year-old female patient presented at the internal medicine ward with gastric pain, nausea, vomiting and weight loss (2-3kg in the past month). The clinic examination revealed: an IMC=19kg/m^2, bilateral pleural syndrome, tachycardia 105-115 BMP, arterial hypertension 130/80, protodiastolic gallop, systolic murmur grade III with maximum intensity in the apex and irradiation in the axial region and bilateral edema at the lower limbs. The EKG shown antero-lateral ischemic lesion and antero-superior hemiblock. A superior digestive endoscopy was conducted with the following results: acute atrophic pangastritis and gastroesophageal reflux disease. The pulmonary radiology exam indicated bilateral pleurisy. The abdominal US shown the ovaries with multiple cystic masses of 12-32mm and medium ascites. The serum marker CA125 is 437,8U/ml (normal: <35U/ml). An echocardiography is made because of the edema, bilateral pleurisy, and sinus tachycardia, revealing the aspect of a non-compaction cardiomyopathy. As for diagnosis: ovarian neoplasm stage FIGO IC3/IB, non-compaction cardiomyopathy of the left ventricle, ischemic chronic cardiac disease, antero-superior hemiblock, bilateral pleurisy and acute atrophic pangastritis. The treatment consisted of: Metoprolol 50mg/day, Furosemide 20mg/day, Amiodarone 200mg/day, Rivaroxaban 15mg/day and Esomeprazole 20mg/day. After the oncological examination, it was recommended Carboplatin 450mg for the ovarian neoplasm. Having taken into consideration the diagnosis of non-compaction cardiomyopathy, the surgical procedure was not recommended due to the high risks regarding the general anesthesia. **Discussions :** The non-compaction cardiomyopathy is a rare heart disease, with the prevalence in the general population is unknown. An echocardiography is mandatory to put the diagnosis. The main complications of this heart disease include heart failure, arrhythmias and thromboembolic accidents. There is no specific treatment for this disease. Furthermore, the prognosis of this patient is reserved due to the association of the malignant ovarian tumor and the newly discovered heart disease. **Conclusions:** The patient presented at the internal medicine ward with symptoms of a digestive disease, but it was found that she suffered of ovarian cancer and non-compaction cardiomyopathy.

Keywords: non-compaction, cardiomyopathy, ovarian, neoplasm

THERAPEUTIC PERSPECTIVES IN ATTENUATED MUTYH-ASSOCIATED POLYPOSIS

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Introduction: MUTYH-associated polyposis is an autosomal recessive inheritable cancer predisposition syndrome caused by a defective MUTYH gene. It is phenotypically characterised by increased risk of colorectal cancer and

moderately high risk of extraintestinal tumours. MUTYH is a gene encoding the glycosylase enzyme involved in the DNA base excision repair mechanism, as it is a tumour suppressor gene. The biallelic mutated genotype is present in about 1% of people diagnosed with colorectal cancer. **Case Report:** A A 42-year-old woman, with a negative family history for cancer, was diagnosed in September 2014 with Chiari Malformation Type 1 for which she has a suboccipital craniotomy performed. In September 2016, a pseudomeningocele was identified using magnetic resonance imaging (MRI) resulting in another surgical procedure. In May 2019, the patient presents with a sudden intestinal obstruction caused by a proliferative mass in the transverse colon, for which a left hemicolectomy was performed. Histopathological examination confirms the existence of a moderately differentiated adenocarcinoma with pT3N0MxL0V0 staging. Molecular testing for germline mutations (NGS technology) identified a pathogenic mutation in the MUTYH gene. The somatic molecular analysis of the tumour revealed a G12C K-Ras activating mutation. In July 2020 a metastatic liver mass was found, followed by full VIIIth segment and partial VIIth segment resection. **Discussions :** Monoallelic MUTYH mutations have a 6-8% risk for colorectal cancer (compared to 5% in the general population) while in the case of a biallelic mutation the risk rises up to 40%, followed by a risk of 25% to develop duodenal and gastric adenomas (with 4% risk of malignization). As KRAS somatic mutation was spotted, there was no eligibility for molecular targeted therapy with anti-epidermal growth factor receptor (anti-EGFR) agents. The immunohistochemistry staining shows a tumour displaying high levels of microsatellite instability, suggesting Lynch-like characteristics for this familial adenomatous polyposis entity. **Conclusions:** MUTYH-associated polyposis is a rare inheritable cancer predisposition syndrome with particular histology and medical management. The association of somatic mutations in the KRAS gene (with anti-EGFR inhibitor resistance) and the MSI-H tumours (with low sensitivity to 5-Fluorouracil) poses great difficulties in treatment. Thus, the patient was evaluated and further treated with Pembrolizumab with a positive outcome and, momentarily, presents non-evolutive metastatic disease.

Keywords: MUTYH gene, attenuated adenomatous polyposis, MSI-H tumour, Pembrolizumab

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THE MANAGEMENT OF THE FLECAINIDE INTOXICATION OF A PATIENT WITH HEPATIC AND RENAL DYSFUNCTION

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Introduction: Flecainide is an oral class 1C antiarrhythmic drug that blocks Na+ channels and decreases the excitability and conductibility in the atria, ventricles and the Hiss-Purkinje system. It is indicated for the treatment of paroxysmal atrial fibrillation/flutter associated with disabling symptoms and paroxysmal supraventricular tachycardia in patients without structural heart disease. In cases of overdose, flecainide can induce life-threatening ventricular arrhythmias. **Case Report:** A 42-year-old patient with the following comorbidities: paroxysmal atrial fibrillation, stage 2 hypertension, chronic hepatitis B infection, solitary kidney, presents himself in the emergency room with palpitations and symptoms of a presyncopal episode. An emergency ECG shows broad QRS complex arrhythmia. Electrical cardioversion is performed effectively and the patient is sent to a territory hospital for an electrophysiological study, in order to analyze the mechanism of the arrhythmia. Upon presentation to our service, the patient presented with sinus rhythm and was dynamically and respiratory stable. Chronic medications include Nebivolol 2,5mg 1-0-0, Apixaban 5mg 1-0-1 , Flecainide 100mg 1-0-1 and Entecavir 1-0-0. An electrophysiological study was conducted, where the diagnosis of anticlockwise re-entry 1:1 atrial flutter with aberrant conduction was made. The origin of the arrhythmia is discovered by applying a radiofrequency of 70W to 70 ° with the result of a bidirectional isthmic blockade. The periprocedural and post procedural evolution was favourable without recurrence of atrial flutter, but with rare and auto limitative atrial fibrillation. The prognosis for the patient is favourable. Upon exit, the patient was prescribed antiarrhythmic medication with chronic amiodarone and flecainide as "pill-in-the-pocket" medication. **Discussions :** This case report highlights the difficulty of the management of the antiarrhythmic medication dose of a patient with hepatic and renal dysfunction. Entecavir decreases the metabolization rate of flecainide, while the renal dysfunction accumulates the drug. Although there are no contraindications in these cases, another antiarrhythmic medication is recommended. Flecainide can develop atrial fibrillation into atrial flutter with 1:1 conduction. In this particular case, a therapeutic dose can be toxic. **Conclusions:** Flecainide is a class 1C antiarrhythmic agent. Although there are no contraindications for the use of flecainide in patients with renal or hepatic dysfunction, it is recommended to be used with strict dose control and monitoring of the arrhythmic si de effects.

Keywords: flecainide intoxication, wide QRS-complex tachycardia, hepatic and renal dysfunction

POSTER - DENTAL MEDICINE

TREATMENT OF RESIDUAL CYST – ENDOBUCCAL CYSTECTOMY

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Introduction: The residual cyst is a pathological process that continues it's development after the extraction of a temporary or a permanent tooth. It derives from a residual periapical granuloma, which can turn over time into a cystic form. The residual cyst is initially located next to the alveolus of the corresponding extracted tooth, causing in evolution bone resorption, thus increasing in dimensions and affecting neighboring teeth. A series of complications may arise depending on the location, for example: pathological mandibular fracture, invasion of the maxillary sinus, infection and abscess formation. **Case Report:** A 59-year-old male patient addresses to the dental clinic for lower arch prosthetic rehabilitation. From the medical history we underline pharmacologically treated arterial hypertension. Furthermore, the patient mentioned a surgically treated buccal abscess corresponding to the left lower quadran.Removal of the causal tooth was performed after the acute manifestations subsided, without proper curretage of the socket. The imagistic examination, cone-beam computed tomography (CBCT), reveales a large residual cyst in the left edentoulos mandible that caused bone resorption and pushed the alveolar inferior nerve to the basilaris of the mandible. The current diagnosis is: a residual cyst that persisted at the level of an edentulous alveolar crest after the bony healing. The patient has received cystectomy. **Discussions :** Due to the typically expansive character of the residual cyst, the CBCT image scans, followed by cystectomy, are indispensable. The cyst usually develops tridimensional in depth, exposing the alveolar inferior nerve and can also cause nerve damage by applying constant preasure. This is where the usefulness of the CBCT comes, because it is more sensitive in describing such specific characteristics. These aspects are very important as well, for the management of intraoperative accidents. **Conclusions:** An incomplete intervention, such as partial excision or insufficient post-exodontia curretage, may allow continuing cystic evolution. Also, incorrect management of the case, without imagistic investigation, may miss a pathologycal entity which can determine further septic or mecanical complications .

Keywords: MANDIBULAR CYST,, CYSTECTOMY,, CBCT

HOW DOES DAILY LIFESTYLE IMPACT HIGH-PERFORMANCE POLYMER INDIRECT RESTORATIVE MATERIALS?

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Introduction: The demand for metal-free dental restorations such as biocompatible high-performance polymers has increased in the past years. Being relatively new, they haven't passed the test of time yet. The study aims to assess the color stability, gloss, and surface modifications of biocompatible high-performance polymers, used for removable partial dental prostheses, by interacting for 2-7 days in vitro with different commonly consumed beverages and products. **Case Report: Discussions :** The color differences on the finished and unfinished surfaces were observed after immersion in black tea, espresso coffee, instant coffee, nicotine solution, cocoa drink, and soft drink. Regarding the samples that interacted with the yellow onion, there was found to be an intense brown coloring. There were no significant color differences in any of the samples after immersion in distilled alcohol, black gooseberry wine, or contact with the red onion. Bleaching and smoothness were noted, referring to the sample immersed in chlorhexidine mouthwash. Increasing roughness was observed in the case of samples introduced into the yellow onion and distilled alcohol. **Conclusions:** The tested materials were susceptible to staining by interaction with black tea, coffee, nicotine, cocoa drink, soft drink, and yellow onion. Black tea showed more staining capacity compared with other substances. Bleaching occurred in samples immersed in chlorhexidine mouthwash. Distilled alcohol, yellow onion, and mouthwash have changed the texture of the samples.

Keywords: high-performance polymers, color-change, surface finishing

BONE HEALING FOLLOWING MANDIBULAR CYST REMOVAL

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Background: A cyst is defined as a cavity with liquid, semiliquid or gaseous content, surrounded by an epithelial membrane. Because of their asymptomatic and extensive evolution, cysts can reach large dimensions, threatening neighboring anatomical structures. **Objective:** The aim of the present study is to report a clinical case of surgical removal of an odontogenic cyst, measures adopted in order to conserve the teeth involved and bone regeneration in a 33-year old. The cyst in question reached a considerably large dimension before being accidentally discovered in a routine panoramic X-ray check up, therefore this study also emphasizes the importance of an early and correct diagnosis, as well as the use of the most appropriate treatment methods. **Material and methods:** The present study was carried out on a clinical case performed in a dental office located in Napoli, Italy. The 33-year old patient's chief complaint was the displacement of frontal lower teeth, which was then discovered to be caused by a greatly extended odontogenic cyst in the mandible. The involved teeth (4.4 to 3.4) were splinted and treated endodontically before proceeding to the cystectomy during which apicectomy was performed on all treated teeth. Bone regeneration techniques were performed using BioOss and autologous PRF. **Results :** Following the removal of the cyst, bone regeneration in the affected area was achieved as well as the conservation and stabilization of involved teeth. **Conclusions:** Bone regeneration of extended portions of the mandible, can be achieved through the application of abundant artificial bone used in combination with autologous PRP. An important factor in cyst formation and evolution is prevention, therefore this study emphasizes the importance of regular dental check-ups .

Keywords: Odontogenic cyst, Bone regeneration, PRP, PRF

SYSTEMATIC LITERATURE REVIEW REGARDING INVISIBLE ALIGNERS- CURRENT CONCEPTS AND GUIDELINES CONCERNING PERIODONTAL IMPLICATIONS

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Introduction: Even if the history of orthodontics dates back to ancient Greece, it took hundreds of years of technological and scientific evolution to be able to enjoy more discreet and aesthetic orthodontic treatments. The idea present behind this type of transparent solution is to offer a more aesthetic alternative to traditional metal braces so that the patient feels more comfortable and confident. The primary benefits are clear transparent appearance of the devices and the ability to take them out when eating and while maintaining of oral hygiene, together with higher comfort and simplicity of use. Fixed orthodontic appliances temporarily interfere with periodontal health of patients as suggested in the literature, as the appliance complicates oral hygiene. Periodontal implications of orthodontic therapy are frequent, gingival and periodontal condition need to be evaluated carefully in every patients. **Case Report:** A manual literature search was performed using the PubMed and Cochrane databases. For evaluation keywords such as "invisible aligners" and "periodontal health" in different combinations were used during the study methodology. Articles published in English language and published in the last five years were considered relevant for the aim of our study. **Discussions :** Invisible aligners will not lead to gum disease in healthy patients. Invisible aligner is not likely to cause recession, because the movement is strategically planned with the periodontium or the specialized tissues that both surround and support the teeth. **Conclusions:** It can be demonstrated by several studies that patients undergoing treatment based on invisible aligners present an healthy periodontium after the treatment.

Keywords: "Periodontal status", "Invisible aligners", "Systematic review"

COMPARATIVE STATISTICAL AND BIOMECHANICAL STUDIES CONCERNING TWO BRACKET SYSTEMS: CONVENTIONAL AND SELF-LIGATING

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Introduction: Orthodontic appliances have improved and been perfected since their inception in order to treat the most complex cases and the most challenging malocclusions. The term bracket was first coined by Angle in 1916, when he introduced the ribbon arch appliance. The bracket act like handles to transmit the force from the active components to the teeth. They can be classified to the type of slot, on model of attachment to the teeth, on the model used and on the arch-wire ligation: conventional and self-ligating brackets. Conventional orthodontic brackets use ways to tie in the wires (e.g. stainless steel ligature wires or elastomeric rings) to hold the arch-wire within the bracket slot. Self-ligating brackets have been created around 1930 and are very similar to the traditional, with one notable exception: the ligature. They were designed to eliminate metallic and elastomeric ligatures, based on the concept that his system would create lower friction than conventional brackets. These brackets are characterized by having a "ligature" like opening and closing over or precision latch. Self-ligating brackets can be divided in two categories, active and passive, depending on the closure mechanisms. The active self-ligating bracket have a closing spring that stores energy and exerts pressure against the arch to control torque and rotation; instead, the passive one presents a passive rigid door, once the arch has been inserted, simply closes the slot making it a tube, without interacting with the arch itself. From a literature point of view the self-ligating, compared to conventional brackets, offer numerous advantages especially the reduced friction in the sliding mechanisms. But statistically there are not enough trials, so further trials and meta-analysis are required in order to reaffirm it. Defended by some and greeted with certain reservations by others, self-ligating brackets are still hotly debated. **Case Report:** Materials and methods: Articles from PubMed, Journal of the Formosan Medical Association, AJODO, European Journal of Orthodontics, Angle Orthodontist, Dental Press J. Orthodontics, ResearchGate. We analyzed some parameters: treatment times, sliding mechanism, patient comfort , aesthetic satisfaction. **Discussions :** There are not enough trials to demonstrate the superiority of self-ligating brackets over conventional brackets, but some values are better in self-ligating system. **Conclusions:** Based on the available data self -ligating are not considered superior to conventional bracket system. The results of meta-analysis and statistically are not overall significant, no clinical approval can be made concerning the type of bracket system

Keywords: conventional brackets, self-ligating brackets, orthodontic brackets

THE POTENTIAL OF HYALURONIC ACID IN THE TREATMENT OF PERIODONTAL INFLAMMATION – A SYSTEMATIC REVIEW OF THE LITERATURE

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Introduction: Hyaluronic acid is a naturally occurring linear polysaccharide of the extracellular matrix of connective tissue, therefore, nowadays, the use of hyaluronic acid has been consolidated in various medical fields such as: orthopedics, ophthalmology and dermatology. In dentistry, hyaluronic acid had show anti-inflammatory and anti-bacterial properties in the treatment of periodontal disease. Synthetic Hyaluronic Acid used in dentistry has similar characteristics to what our body produces. This promotes the healing and repairing processes of damaged tissues. Hyaluronic acid with its tissue regenerating power help in cases of more severe periodontitis, both in bone and gum tissue regeneration. **Case Report:** Relevant literature researches were conducted in Pubmed, Medline and Cochrane databases, as well as grey literature. The research was achieved by using keywords as "hyaluronic acid" , "hyaluronic acid and periodontitis" and Hyaluronic acid and periodontal disease. Studies included in the research were considered relevant for the aim of our study if were performed in humans and published in the last ten years. **Discussions :** Hyaluronan gel™ was found to be effective in controlling inflammation and gingival bleeding. Studies have documented reduction in the depth of gingival pockets along with a significant reduction in epithelial and lymphocyte cell proliferation with the use of HA gel. Autologous bone combined with an esterified low-molecular HA preparation seems to have good capabilities in accelerating new bone formation in the infra-bone defects. **Conclusions:** Hyaluronic acid has numerous important physiological and natural properties. It shows anti-inflammatory, tissue healing and bacteriostatic properties. The application of exogenous hyaluronan™ and

hyaluronan- based biomaterials has been successful in manipulating and accelerating the healing process in a number of medical disciplines. It's also shown to be salutary in gingivitis and periodontitis cases owing to it's bacteriostatic and anti-inflammatory properties. Also, it's presumptive that exogenous hyaluronan™ administration to periodontal sites could achieve comparable benefits in periodontal healing and surgery, hence favouring the treatment of periodontal disease.

Keywords: "hyaluronic acid", "hyaluronic acid and periodontitis", "Hyaluronic acid and periodontal disease"

BALANCE OF TEETH WHITENING WITH NATURAL METHODS

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Introduction: What is "the perfect smile", how it looks like and how can we achieve it in a harmless and natural way? Nowadays the smile is invariable part of our appearance and most people dream about "the perfect white smile". Actually that is the main reason for teeth whitening to become a "must have" for most of the patients. **Case Report:** The main purpose of the study is to assess teeth whitening using natural methods or organic products through an "in vitro" study. On a batch of 48 extracted teeth that were extrinsically stained, we performed a clinical cleaning (periage) of the teeth and after that we applied a natural whitening ingredient. For better results we made a professional shooting and used a componeer with colour key which was useful to compare the difference between the colours of the teeth. In our study we tested the whitening effect of the following materials: natural baking soda, lemon, sodium chloride, charcoal, basil, neem, clay, turmeric, aloe vera and clove oil. **Discussions :** The whitening effect depends on the type of colour and the natural ingredient that has been used in this study. If the extracted tooth has not been stained and if it is naturally white, the whitening effect will be barely perceptible to the naked eye. **Conclusions:** Most of the patients believe that the meaning of "the perfect smile" is equivalent to "the whitest teeth" and this point of view does not allow them to evaluate correctly what the natural appearance of the teeth is supposed to be. That is one of the reasons why the natural method of teeth whitening is not enough for patients. Because their self-perception of teeth whitening usually has "unnatural" chromatic standards and it is hard for them to find the balance beetween the real perfect smile and "the perfect white smile".

Keywords: whitening, natural ingredients, perception

CLASSIC AND DIGITAL IN THE AESTHETIC DESIGN OF THE SMILE

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[2]

Introduction: Most of the time, the aesthetic expectations of the patients are very high when it comes to rehabilitation in the frontal area. **Case Report:** Digital modeling involves the final rendering of teeth and fine retouching of shape, size, photo analysis, comparative shape, and size analysis. In this sense, if you have not "lived" the morphological details in analog, you cannot "see" them in digital. The digital modeling of the teeth is in fact "driven" by the hand of the technician, or the dentist, who can individualize every detail depending on the patient and the aesthetic harmony of the smile. A smile can be achieved perfectly through engineering and software data and formulas, but the harmony of a beautiful smile can be rendered only by the digital involvement of the human "classic-analog".The dental design step involves a thorough knowledge of dental morphology and some clinical experience. The complete scanning system and the milling machine should come in a moment of professional experience, or in the presence of a mentor to supervise this flow from an aesthetic point of view. **Discussions :** Trying to find the answer to the following questions: Can digital 3D design fully meet aesthetic requirements? Does digital dentistry require knowledge of classical dentistry and analogy expertise? Digital design belongs to the present and will certainly have new perspectives very shortly, but it is necessary to have a thorough knowledge of the "classic" morphology even for the smile of the future. **Conclusions:** Young doctors with no clinical experience or minimal clinical experience need to work with an experienced dental technician to be able to provide patients a correct and comfortable morphology and especially an aesthetic smile.

Keywords: analog, digital, aesthetic, clinical experience

POSTER - PHARMACY

SAFETY OF DERMATOCOSMETICS DURING PREGNANCY

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Introduction: During pregnancy, many patients are facing skin problems such as acne or undesirable hair growth. The safety of dermatocosmetic product use during pregnancy has been called into question since they contain a variety of chemical substances that can increase exposure to heavy metals, parabens, phthalates, and benzophenone. **Case Report:** This study aimed to analyse the safety of dermatocosmetic substances used during pregnancy. **Discussions :** Reports have shown that the use of hair dye and hair strengthening chemicals during the first trimester of pregnancy, can lead to the development of acute lymphoblastic leukaemia and acute myeloid leukaemia following birth. The use of phthalates during pregnancy can cause motor skill problems and may impair language development. Metals absorbed through dermal penetration can pass the placental barrier and affect the fetus, leading to fetal growth restriction (FGR). The toxicity of heavy metals is systemic. The ones that are of high concern are Cr, Co, Hg, Ni, Pb, Sb, and As. Non-tested cosmetics are not checked for respecting the limits of metal concentrations. The lower price of these products constitutes a worrying factor, as the low cost of the product often constitutes an appealing factor to the patient. Benzophenone and its metabolites can be found in most cosmetics. They can pass the placental barrier leading to the FGR phenotype. Methylparaben, ethylparaben (EtP), propylparaben, butylparaben are antimicrobial agents used in many body lotions and creams. High concentrations of parabens found in the urine of pregnant patients were associated with the use of products that contain parabens. Exposure to EtP increases the risk of gestational diabetes. **Conclusions:** Caution is required regarding the use of dermatocosmetic products during pregnancy. Products containing heavy metals, parabens, phthalates, and benzophenone should be avoided. Long-term exposure is not safe and can lead to fetal growth restriction, gestational diabetes, impaired motor skills, and language development problems.

Keywords: safety, cosmetics, pregnancy, phthalates

VEGAN DIET: BETWEEN BENEFITS AND RISKS REGARDING OMEGA-3 INTAKE IN PREGNANT WOMEN

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Introduction: Essential omega 3 fatty acids, EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) are mainly derived from animal sources (especially fish) or from vegetal oils and seeds as precursors (ALA, α-linolenic acid) that are transformed in the body through additional stages of desaturation and elongation. A vegan diet involves eating only plant-based foods without any animal products intake. The role of omega 3 acids in the diet is intensely studied from the food intake to the biological importance of the compounds that result from endogenous metabolism, but the question is whether the benefits of a vegan diet outweigh the risks to the fetus and the postpartum mother. **Case Report:** The analysis of Clarivate Analytics Web of Science database, using as keywords "omega-3 fatty acids", "vegan diet", "DHA" and "EPA" was conducted. **Discussions :** The scientific literature offers an increased number of studies regarding the role of EPA and DHA in pregnant or postpartum women and in the fetus but the data are controversial and limited because of ethical considerations. Both observational and interventional studies show that long term dietary intake of omega 3 during pregnancy has positive effects on the fetus (development of immune and cognitive functions, gestational age, birth weight) but also on postpartum depressive symptoms. The Academy of Nutrition and Dietetics recommends a daily intake of EPA or DHA between 200 and 300 mg of which approximately 50-60 mg per day in the last trimester as it accumulates in the fetus being essential for fetal development. **Conclusions:** Being aware of the principles of proper nutrition, but also realistically estimating the daily intake of omega 3 essential fatty acids is a moral duty of the pregnant woman who adopts a vegan diet, especially since possible deficiencies can be corrected by consulting a specialist and taking dietary supplements. Based on these considerations, a well-planned vegan diet is safe and adequate for maintaining good health during pregnancy.

Keywords: omega 3 fatty acids,, EPA,, vegan,, DHA

DEVELOPING A NEW CO-PROCESSED EXCIPIENT. EVALUATION OF THE EXCIPIENT THROUGH SEDEM EXPERT SYSTEM

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Introduction: Co-processed excipients are a combination of two or more excipients developed to physically modify their properties in a manner that is not feasible by simple physical mixing and without significant chemical change. This study aimed to develop a granular co-processed excipient for tablets, evaluated through the SeDeM expert system. **Case Report:** The granules were obtained through the wet granulation technique. Six formulations were developed, using different concentrations of the binder, two types of fillers, and two different types of cores. The ingredients used were: sorbitol, sodium alginate, sodium stearyl fumarate, microcrystalline cellulose, lactose, sugar, Cellets®, and AquaPolish® (concentrations varied on three levels: 10%, 15%, and 20%). From the six formulations developed, three were prepared with microcrystalline cellulose whilst in the other three, the filler was replaced with lactose. The developed granules were evaluated in terms of particle size (bulk density, tapped density), compressibility (inter-particle porosity, Carr's index, and cohesion index), flow properties (Hausner ratio, angle of repose, flowability), lubricity (loss on drying, hygroscopicity), stability (particles smaller than 160 µm, homogeneity index). The resulted tablets using the functional excipients were verified in terms of friability, mechanical strength, and disintegration ability. All the tests were conducted respecting the in-force European Pharmacopeia requirements. **Discussions :** The results showed that the binder concentration influenced the particle size, a concentration of 20% AquaPolish® conducting to large-size granules. It has been noticed that the type of core used to prepare the granules played an important role in establishing the mechanical strength, thus the formulation in which Cellets® was used, had a lower resistance compared to those in which sugar was used. The recorded disintegration times were less than 15 minutes for all the tablets obtained from the formulated granules. **Conclusions:** For the granule's development, the binder concentration had the greatest influence on particle size, mechanical strength, and lubricity, also the type of core used played an important role considering the mechanical strength of the tablets.

Keywords: co-processed excipient, SeDeM expert system, wet granulation technique., granules

DEVELOPMENT AREAS OF NANOTECHNOLOGY. TYPES OF NANOPARTICLES AND THEIR CHARACTERISATION

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Introduction: The development, study, and applications of nanoparticles have made decisive progress. Nanoparticles have been developed to overcome the therapeutic limitations of existing drugs, such as the possibility of target delivery belonging to polymeric nanoparticles to the brain or in the oncological sphere to reduce the adverse effects of chemotherapeutic agents.: In recent years, nanoparticles have received special attention due to their potential use in a wide range of fields, from construction to pharmaceuticals. Their applicability is justified due to the wide range of nanoparticles that exist and those that are under development. **Case Report:** A study of the following scientific databases was made: Science Direct, PubMed, Tandfonline, Natura Outlook, using keywords such as: organic nanoparticles, carbon-based nanoparticles, polymeric nanoparticles, dimensional, structural and optical characterization. **Discussions :** The unique characteristics of nanoparticles determine their applicability in various fields from renewable energy storage to cosmetics and the pharmaceutical industry. The body's response to different nanomedications and their applications in nanodiagnostics depends on the pharmacotechnical characteristics, like the shape, size, structure, composition, distribution, crystallography, and optical properties. **Conclusions:** With a dimension of the particles between 1 and 100 nanometers, nanotechnology is a state-of-the-art field, an advanced field of science in which extensive research is done. Based on their properties, it can be concluded that nanotechnology has become synonymous with the evolution of technology.

Keywords: carbon-based nanoparticles, organic nanoparticles, polymeric nanoparticles, nanotechnology

ABORTIFACIENT AND TERATOGENIC EFFECTS OF MEDICINAL PLANTS

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Introduction: Pregnancy is a crucial and delicate period that requires special attention in drug administration. Due to limited knowledge and the general impression that everything natural is risk-free, many pregnant women tend to use herbal drugs to ameliorate common symptoms without seeking information from health care professionals. This paper aims to evaluate the evidence regarding the abortifacient and teratogenic effects of herbal drugs. **Case Report:** English electronic literature searches were conducted in ScienceDirect, Pubmed, and Scopus databases, using the following keywords: herbal drugs and abortifacient and/or teratogenic. **Discussions :** Database search has revealed that many herbal preparations have abortifacient effects. Ruta graveolens, Mentha pulegium, Petroselinum crispum, Tanacetum vulgare, Trigonella foenum-graecum are considered potent abortifacient drugs. As birth control, they are still used in traditional medicine in the least developing countries. Herbal drugs that contain anthraquinones have abortifacient effects when taken in the first semester because they induce uterine contractions. Some essential oils, like fennel, cinnamon, and juniper, are emmenagogues and should be avoided during pregnancy. Preclinical studies have revealed that some herbal drugs have teratogenic effects: Peumus boldo, Momordica charantia, Veratrum album, and lemongrass. Essential oils that contain methyl salicylate like Gaultheria procumbens essential oil (Wintergreen) and Betula lenta (sweet birch) essential oil can lead to an increase in congenital anomalies. **Conclusions:** Although the plants are seen as safe remedies without side effects in the collective conception, this is not always the case. For many herbal drugs, the information regarding their safe use in pregnancy is scarce. Several common plants can lead to notable toxic effects; therefore, pharmaceutical counseling plays an essential role in avoiding any potential risk.

Keywords: pregnancy, abortifacient, teratogenic plants, herbal drugs

BIOMEDICAL ENGINEEERING - BIOMEDICAL ENGINEEERING

PASSWORD LOCKING SYSTEM BY MEANS OF A PIC18F4455 MICROCONTROLLER

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Background: The programmable intelligent computer (PIC) is a microcontroller produced by Microchip Technology. This microcontroller is divided into several families: PIC10 and PIC12, PIC16, PIC17, PIC18, PIC24, and dsPIC , PIC32. PIC18 is the family of PIC microcontrollers with 16-bit instructions and an 8-bit internal data bus. PIC18 has flash memory and is based on HARVARD architecture. This architecture has the following advantages: first, this architecture provides access to data and instructions at the same time. Second, the data bus of the two types of memories may have different sizes. **Objective:** This paper aims to present a password locking system by means of a microcontroller. **Material and methods:** For this project we need a: PIC18F4455 microcontroller, a matrix keypad, L293d motor drive, two motors and an LCD display. I will create the program code for this application with the help of the MPLAB IDE development environment (a development environment with a large number of applications and libraries, which allows the programming of applications in assembly language or in C). The simulation of this system is performed in Proteus 8 Professional Schematic Capture. The connection to the ports is made as follows: the motors are connected to the PORTB, the keypad to the PORTD, and the LCD to the PORTA and PORTC. **Results :** After completing all the steps, the simulation shows the start of the two motors, depending on the password entered through the keyboard. Depending on the password entered, the following actions will occur on the motors: the wrong password - stop motors , the password 1111 - start motor 1, the password 2222 - start motor 2, the password 3333 - start motor 1 and motor 2. **Conclusions:** The purpose of this paper is to illustrate the principles of connecting various equipment to the ports of a PIC18F4455 microcontroller.

Keywords: microcontroller, password locking system, PIC18F4455, Proteus 8

MATHWEB

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Background: Designed with the help of web technologies, the MathWeb application aims to bring together in one place all the educational resources necessary for the process of learning and understanding mathematics. This web application has a login system, connected to a database. After creating a user account, anyone can access the resources provided by MathWEB. **Objective:** The objectives of this paper are twofold: firstly, to create an environment in which educational resources can be accessed easily and quickly, and secondly, to highlight the importance of using web technologies to solve various problems. **Material and methods:** The creation of web pages, the insertion of text, images, pdf documents, lists and other visual objects, will be done with the help of the HTML language (the most used service on the Internet, its foundations being laid in 1989). In addition to HTML, we will also use CSS classes and objects for the design part. Forms will be processed with PHP. All information collected in the form will be transmitted to the MySQL database. Various actions can be performed on the database, such as deleting a user account or updating information. **Results :** The users can access the educational resources, they can calculate their school average, or can access an advanced computer that can process from simple calculations to finding the solution of various mathematical integrals or advanced matrix calculations. **Conclusions:** Therefore, MathWEB is an advanced web application with a future perspective and is useful in the context of current digitization.

Keywords: web technologies, database, mathematics, MathWEB

MONITORING THE SECONDARY POWER SUPPLIES OF MEDICAL EQUIPMENT

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Background: Hospitals are the headquarters of healthcare, they exist in a continuous use, people's lives depending completely on the activity of hospitals and their equipment. At the level of electricity, the hospital is

connected to the National Energy System, but sometimes it cannot provide a continuous supply of electricity, due to interruptions. People depending on medical devices, even on Life support need a continuous power supply of the devices, and this cannot be ensured by simply connecting to the N.E.S. **Objective:** The solution we propose in this paper is to monitor the UPS, the secondary power supply in case of power failures. In order to increase the safety of the dependent patients and of the devices, our most important goal is that these uninterruptible power sources display their reliability parameters and the mean time between failures. **Material and methods:** In order to carry out our work, we referred to a mathematical pattern that indicates the declared reliability parameters of an UPS, details regarding the charging-discharging cycle and the battery life. A physical model was created with an UPS / Battery as a voltage source, a resistor that mimics the real resistance of a device, a voltage sensor to check the amount of voltage and an intensity sensor to monitor the current, all of these in real time. All components have been connected to an Arduino ATMEGA board, which in turn is connected to the PC to display the measured values. To add extra security, we have attached to the assembly a GSM modem that sends SMS to an assigned number when the measured values fall below normal and safe. In order to be able to record all the data, the Arduino board had to be programmed with the ArduinoIDE software. The software algorithm created is based on two inputs: power supply voltage and discharge current. These are translated into eloquent parameters that can be compared with the values given by the voltage source manufacturer. **Results :** Indicators of reliability, lifespan and percentage of the initial battery capacity being lost with each charge-discharge cycle will be obtained. **Conclusions:** This paper aims to increase safety in the power supply of medical devices in hospitals. Secondary power supplies are constantly checked using our method in order to rule out even the slightest possibility of failure and to concretely illustrate the remaining operating time of a UPS.

Keywords: UPS, arduino, safety

INDUSTRIAL AUTOMATED SELECTION, PAINTING AND DRYING PROCESS

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Background: 611 / 5.000 Rezultatele traducerii In industrial applications, the use of equipment such as PLCs, motor drivers, voltage sources, sensors of all kinds, pumps, relays and various electrical panels is inevitable. A PLC can be considered the brain of the industry, it is a "super computer" that used properly should never fail. A PLC also uses a SCADA system through which any user can see the data processed by him, such as: real-time values, connections, functionalities of the installation, continuously monitoring the process to complete the process. **Objective:** The objective is, as the title tells us, a series of processes that go through the help of a conveyor belt as follows:1. Measuring the height of the workpiece - If the workpiece has the proper height, proceed to the next process, if the workpiece does not have the proper height (it is too high) it will be removed with the help of an automatically pneumatically operated piston. 2. Removal of the part with the help of the piston, automatically conditioned process action 3. Painting the part with the help of a "tank-pump-spray" structure inside a transparent enclosure in order to be able to visualize the process, a process conditioned by two photocell sensors, one at the entrance to the enclosure and one at the exit from it. 4. Drying the part using four infrared lamps for heating and two fans for overheating protection and ventilation, conditioned by a PLC control unit **Material and methods:** The model is made with professional and industrial equipment from Siemens but also my own invention with the help of an Arduino for the 12VDC motor driver that aims to move the conveyor belt. It also contains current protections, relays, 12 and 24 VDC voltage sources, Arduino uno, 12VDC motor, 12VDC pump, 2 temperature sensors, 2 photocell sensors and a height sensor. **Results :** Before the era of automation, all these processes had to be done manually, which made the process very difficult and put pressure on people who had to do all the steps of the manual process, steps now occupied by PLC and good programming of component sensors. **Conclusions:** Automation is the future, the speed with which this equipment processes information and performs tasks is unimaginable. People have to focus more and more on this, the programming of this equipment is becoming an indispensable field. The model presented has a didactic purpose and truly reproduces a real industrial installation.

Keywords: PLC, belt conveyor, sprayer painter, industrial

SCADA SYSTEM FOR MONITORING A PHOTOVOLTAIC SYSTEM OF AN OFFICE BUILDING

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Background: We live in the age of the Internet that brings us closer to the "Internet of Things" or the Romanian language "Internet of Things". We may not realize it perfectly, but we're already there. IoT allows a large number of devices to communicate over the Internet with a server that analyzes the information received and sends it back to users with the most relevant information. **Objective:** The paper entitled "SCADA system for monitoring a photovoltaic system of an office building" aims to study and implement a surveillance and control system in an office building that has the role of demonstrating the improvement of energy efficiency and providing visual support and control of building maintenance. **Material and methods:** Monitoring of the photovoltaic panel system and its related components: Inverters, Meter, External network Monitoring the water and heat system Monitoring the electrical system and UPS Alarm system monitoring Gate system monitoring Server monitoring **Results :** As result, an information system based on a Siemens LOGO from the S7 family was developed, with temperature sensors and Fronius inverters together with a SIMATIC WinCC graphical interface on a communication protocol specialized in this field MODBUS TCP / IP. This system is able to safely monitor and control a large building without any problems. **Conclusions:** Thus, it can be concluded that the integration of an information system such as SCADA buildings, although they are an expensive investment, they are good and highly recommended due to the benefits listed above and included in the paper, ie rapid depreciation. dangers, the data is permanently stored and archived, is transmitted instantly remotely and the control is performed remotely.

Keywords: photovoltaic, scada, internet of things, plc

MEASURING DISTANCE ON PIC18F4455 MICROCONTROLLER USING AN ULTRASONIC SENSOR

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Background: Measuring the available space between two points is one of the most important tasks in engineering. The automatization of this process can lead to a much more comfortable life: such application as parking sensors, automatization of fluid level control etc. The ultrasonic sensors are also cheap and are relatively easy to use. Using an Arduino is very common and indeed is much more comfortable, but it can lead to problems on the long run, because the libraries can be written in such ways that they use the processor in inefficient ways (software delay, polling instead of interrupt usage etc.). A more frequent mistake amongst programmers, that they do not count with the fact that two distinct libraries want to use the same resources which leads to problems, that are quite hard to notice. **Objective:** Determination of distance by using a PIC18f4455 microcontroller, accessing register level parts of the microcontroller (using as few libraries as possible), in contrast with the Arduino, where including a library and calling the needed function can lead to unseen problems. **Material and methods:** The microcontroller sets the Trig pin of the ultrasonic sensor, which emits a high-frequency sound (40 kHz), the sound travels through the air, once it collides with an object, it bounces back to the module and the ultrasound receiver (Echo pin) receives the reflected sound (the echo pin will produce a pulse of time taken by electronics burst to send and receive back). On the detection of the received signal, the microcontroller can calculate the distance between it and the object (the velocity of sound in air and the speed of microcontroller are known). Once the distance is calculated, the programmer can decide, what are the goals with the given number (different types of results need various post-processing). **Results :** After calculating the distance, the result is written on the LCD screen and it is also sent via serial communication to the connected calculator. **Conclusions:** Including as few libraries as possible, the written code can be personalized, furthermore it can be optimized for various applications.

Keywords: distance measurement, PIC microcontroller, ultrasonic sensor, serial communication

CONTROL OF A ROBOTIC ARM USED IN INDUSTRY

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Background: The robot industry is quickly expanding on a global scale. An industrial robotic arm is a device that functions similarly to a human arm, featuring several joints that move along an axis or spin in specific directions. Some robotic arms, in fact, closely resemble human arm motions. They have a wrist, forearm, elbow, and shoulder just like ours. Unlike the human arm, which has seven degrees of flexibility, the six-axis robot has six degrees of freedom, allowing it to move in six different directions. **Objective:** These robotic arms reduce worker mistakes as well as labor expenditures. Additionally, the product's quality begins to improve as a result of the robot's capacity to sand down edges, generate straighter welds, and drill precise holes. This simply improves the product over time while also strengthening the brand's integrity. However, robotic arms must be equipped with enough safety features to prevent them from representing a risk to humans. The main goal is to simulate a punching/stamping procedure in an industrial setting. **Material and methods:** We used the workstation with an industrial robotic arm to complete the project. It includes a protection enclosure, operator panel-based human-machine interface equipment, parts indexing unit, workpiece set, compressor, industrial air preparation station, ABB 120 robotic arm, group assembly, and PLC. In terms of software, we programmed the robot with RobotStudio and the PLC and HMI with TIAPortal. **Results :** In the first phase, we must decide how many parts are in the unit and which stamp we will use to stamp the boxes. After we've established these two points, the robotic arm uses the two pieces it has at its disposal to construct a box. She goes to the warehouse after she's finished building and looks for the stamp we've picked to stamp the box. Continue to the next box until it runs out of pieces, indicating that we are out of stock. The robotic arm waits for the supply to be replenished before continuing its work. **Conclusions:** Finally, this robotic arm can increase the precision with which industry procedures are carried out, as well as the projected time for each process cycle.

Keywords: industry, robotic, arm

HMI FOR CONTROLLING AN INDUSTRIAL PROCESS

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Background: In industrial settings, Human Machine Interfaces (HMIs) are used to optimize an industrial process by digitizing and centralizing data for a viewer, track production time and tags and monitor machine inputs and outputs. The HMI technology is used in almost all industries to ensure the communication between operators and their machines. Human Machine Interfaces communicate with Programmable Logic Controllers (PLCs) and input/output sensors to display information for users. A PLC is a digital industrial component of control systems that is used to carry out automatic operations in industrial processes. **Objective:** This paper aims to present an HMI that provide insights about the mechanical performance and progress of the data, allow the control over the components that ensure the proper functioning of the mechanism, display graphs, and ensure the possibility to view and manage alarms. **Material and methods:** The user interface was created using the JavaScript language and React (a JavaScript library for building user interfaces). For the data acquisition I used an API call that brings to the app the input and output data dynamically collected from the PLC. **Results :** The industrial process chosen for this application is found in hydropower plants. With this kind of application, we can see the evolution of the variables of interest in our process, we can remotely manipulate the components of our mechanism and we will be warned in case of alerts. The HMI is focused on visually converting information to help the user supervise the process. **Conclusions:** Previously, operators had to walk the floor constantly to review mechanical progress and take notes on a piece of paper. By allowing PLCs to bring us real-time information straight to an HMI display, we eliminate the need for this outdated practice, and we reduce the costly problems caused by human errors or lack of information.

Keywords: HMI, Javascript, Hydropower plant, PLC

CONSIDERATIONS REGARDING THE VALORIZATION OF HYDROGEN AS AN ALTERNATIVE TO FOSSIL FUELS

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Background: The emerging development of a sustainable and environmentally friendly energy system is a key element in the energy perspective of 2050, as a result of the depletion of fossil fuels, growing energy demand, pollution and global warming. In this context, we focus on vehicles that generate 60% of the amount of carbon monoxide in the atmosphere through the exhaust gases; about 80% of this amount is produced in the first two minutes of engine operation. In addition to carbon monoxide, the composition of the exhaust gases includes hydrocarbons, nitrogen oxides and sulfur dioxide, with a high capacity for diffusion into the atmosphere and harmful effects. Although in recent years the combustion process has been optimized by the introduction of catalysts, followed by an increase in greening standards, it is necessary to focus on new processes that meet the need for energy while protecting the environment. **Objective:** Elaboration of the case study regarding the realization of a model that would illustrate the principle of operation of hydrogen machines because it is necessary to define the component elements, the description of the operation process, data related to the real efficiency of the machine. Hydrogen will be supplied by electrolysis. **Material and methods:** Electric motor at the base of which are two wheels for starting the machine;Proton exchange membrane fuel cell;Graduated cylinders for storing oxygen and hydrogen;The four-wheel chassis on which the above-mentioned components rest; Photovoltaic panels (an battery can be used as an option);Oxygen and hydrogen conduction tubes;Connector cables;Distilled water; Fuel injection syringe into the fuel cell. **Results :** Photovoltaic panels generate electricity to produce electrolysis. Through the proton exchange membrane, the injected water is decomposed into oxygen and hydrogen according to the reaction $2H2O (l) \rightarrow 2H2 (g) + O2 (g)$. Oxygen is collected in the specific cylinder, and hydrogen is released in the other cylinder containing distilled water. Once the hydrogen bubbles start to escape from the container, the engine connects to the fuel cell that burns the hydrogen and starts the car. In the case of battery use, the process is similar. The estimated time for electrolysis is 15-20 minutes, and after a charge the machine runs from 3 to 5 minutes. **Conclusions:** A sustainable economic system appears as a direct effect in an ecological society that operates on the basis of clean energy. The challenge for the transition from the current system to the proposed system lies with modern science and, implicitly, its followers.

Keywords: hydrogen, fossil fuel, electrolyte, photovoltaic

ENERGY CONSUMPTION SYSTEMS FOR LIGHTING

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Background: The desire of the modern user is to be in control and to be aware of everything that happens in his house. Thus, a lighting measurement and metering system can be integrated into a house without too much difficulty, being a system like any other, designed to help the owner know if it is lost or depreciated. In the paper, we have included a variant designed to help the concept of the Internet of Things. **Objective:** The paper entitled "Energy consumption estimation system for lighting" aims to study and develop a system for measuring the time of use of household lights in different rooms, in an attempt to demonstrate the impact that the replacement of incandescent bulbs would have and fluorescent lamps with lighting on the new LED technological principle. **Material and methods:** □ Set and read a real time clock □ Storing data on a storage source □ Data transmission on a serial communication upon request □ Bluetooth data transmission on demand □ Sensing the light intensity of the measured source □ Lighting an operation LE**Results :** Given the ban on the production of incandescent bulbs in the future, which are the most inefficient in our case, we still have a wide range of choices regarding lighting, so people have to worry about the purchase price and depreciation over time. In this way, we will have at our disposal the LED bulbs of the higher type, which are also the most recommended, but which people run away from due to the high price, the LED bulbs of the lower type, which people started to consider due to the not too high price. mainly due to their reliability, wide range of shapes and appearance and last but not least due to the wide spectrum in which they emit light. We still have the more classic choices for compact fluorescent bulbs, but these

unfortunately do not excel at all in terms of reliability, and in the end we still have for a while the classic and cheap incandescent bulbs, which are not recommended due to their low reliability, reddish spectrum. the light and the strong heat they give, just to mention the high energy consumption that causes a very low efficiency. **Conclusions:** In conclusion, a system based on ATmega 328p has been developed, capable of measuring and storing in a removable memory of SD type, data that refer to the operating time of the lamps in the domestic rooms.

Keywords: meter, microcontroller, lighting, led

STREEM

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Background: My presentation is about a music streaming app (called "STREEM"). This app was initially a project for the "Web Technologies" discipline. **Objective:** This app was made with a few goals in mind: to be an easy to set up, self hosted streaming app, that would run in the browser, to implement basic functionalities like accounts for different users, the possibility to upload your own music, grouping songs by artists and albums, creation and management of playlists, background music playback (for example, users can create and delete playlists, and add/remove songs to/from them, while a song is playing) and to be responsive. **Material and methods:** The app is built using HTML, CSS, Javascript, AJAX, PHP and MySQL. The app does not reload, all communication with the server is achieved via JS AJAX calls (using the Fetch API) to the PHP backend, which, in turn, makes requests to the MySQL database. Three tables are used: users, songs and playlists. **Results :** After resolving a few problems with the app architecture and user interface, the app does what it intended: it lets users upload audio tracks (in mp3 format) and add metadata to them, like title, artist, album or a cover image, make, update and delete playlists, all without the page reloading or the music stopping. The page is also responsive, but it looks good only on desktop (not on mobile). **Conclusions:** At this point the app is limited to streaming MP3 files. Also, only PNG cover images are supported. Future improvements would include supporting all common audio (WAV, OGG, AAC, FLAC) and image (JPEG, GIF) formats, adjusting audio quality in real-time based on available network bandwidth, making the app mobile-friendly (maybe even a PWA), allowing custom cover images for albums and artists, working with audio file metadata to organize the music library, improving the UI, creating a subsonic-compatible API for integration with 3rd party clients. All this would make STREEM a capable and easy to deploy personal music streaming server.

Keywords: web, php, MySQL, music

ARTUMX

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Background: This idea started form the desire to share the passion for art in a digital way for as many people as possible. In my opinion, technology can be used not only in the industrial field, but also for expression of art, thus making access to information and to sources of inspiration easier. The museum represents on important source for the artists, helping them in the creative process. **Objective:** The objective of this site is to gather all art enthusiasts in the same place. With the help of web technologies, we can create a virtual museum. Due to its simple interface, the site can be used by everyone, thus proving that art can be available for everyone, regardless of age or educational background. **Material and methods:** Laptop and programing language For the design I used HTML and CSS. The functional part is done using Php and database with MySql. **Results :** A site in which you can find information about art and in which users can access a personal page. The site will have a user-friendly interface which will facilitate browsing experiences. For various reasons, may people don't have the possibility to visit a museum or to read a book about art. **Conclusions:** A small virtual museum which can be accessed free-of-charge by anyone.

Keywords: art, free, web, museum

DIGITAL POEM BOOK IMPLEMENTED WITH PIC18F4550

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Background: Microcontroller is a electronic structure designed to control a process or form a link between the external environment and the computer. Microcontrollers can be used in many fields, from the self-production industry to the medicine industry. But I believe that microcontrollers can also be used in the educational field. From this personal belief it was born the idea of creating a book of children's poems. **Objective:** This project intends to help children in the primary classes to read. It can change from a slower speed of displaying letters to a higher speed depending on the voltage. It also has a RGB led to make the look more friendly that changes color according to the user's choice **Material and methods:** I will use the MPLAB program to write the code. The code will be written in the C. For the simulation part of the process we will use the PICsim lab program in which the PIC 18f4550 microcontroller will be chosen. From the microcontroller we will connect a 16x2 LCD to port E , 3 buttons to interact with the program at port B, a potentiometer to reglate the speed at port A and 3 LEDs to which an RGB led will be connect to create different color combinations at port D. **Results :** The project will result in the display of a menu with two children's poems. At the press of a button you will start running a poem of your choice (button 1 poetry 1, button 2 poetry 2) and a button that will take us to the menu. With the potentiometer we can, according to the chosen voltage, change the speed of the message on the LCD (higher tension speed and lower voltage higher speed). When you press each button in addition to choosing the poetry or menu, we will change de color of the RGB LED using a combination of 1 and 0 predeterminet with the help of the 3 leds **Conclusions:** The desire to help children read and stimulate their desire to read.

Keywords: book, microcontroller, potentiometer, PICsim lab

AUTOMATIC SORTING SYSTEM FOR INDUSTRIAL ROBOT

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Background: This paper presents a mechatronic application for automatic sorting of pieces of different colours with a robot arm. The robotic arms are widely used in industry, but most of them are programmed to follow the previously larned trajectory. Very few robots are able to make real-time decisions and therefore we have come up with a method where the user can choose the colour of the parts to be sorted and the robot arm will execute this. In this way, the robot arm will detect the colour of the pieces and will be able to place the objects in different boxes. Color detection will be done using a webcam and an algorithm developed in Matlab. Following this algorithm, the information is sent to the PLC and then taken over by the robot program. The movement of the robot arm is guaranteed by an accurate kinematic model. The user can select from a local or remote interface. The local interface is realized on a HMI (human-machine interface) which contains a menu with a button for each colour and also the remote interface can be accessed both from a laptop or a mobile phone. **Objective:** The sorting process is of significant importance in the industry. Using the available simulation environments can help us to design new efficient layouts, which can be very beneficial from an economic point of view, but it can also help with testing any new changes we want to implement in order to optimize the entire process. **Material and methods:** We chose to automate a sorting system with a robotic arm by simulating several environments: 1. We created an algorithm in Matlab to detect the colors of the objects. 2. We used a PLC which is an industrial digital computer, adapted for the control of industrial systems. 3. We created a program execution in RobotStudio in RAPID programming language to control the robotic arm. **Results :** A user-friendly automated system that aims to sort pieces of different colors and move them into boxes. **Conclusions:** Any automation system must go through a series of very detailed tests, to verify that all functions are working as intended. This is also where the optimisation and reliability of the robotic arm can be tested and improved.

Keywords: robotic arm, sorting objects, webcam

BACTERIAL CULTURE DETECTION IN BLOOD AGAR PLATES WITH ASSESSMENT OF MACHINE LEARNING IMPLEMENTED ON FPGA

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Background: Clinical microbiology identification is currently carried out by professional lab personnel. This means that tens or hundreds of microbial cultures grown on agar medium has to be analysed and counted manually. This is a time-consuming and error-prone process, which requires a trained professional. **Objective:** This is a time-consuming and error-prone process, which requires a trained professional. Objective: The purpose of this paper is to develop a machine learning based approach for identification in the first step and then characterization of bacteria via analysis of pictures, taken from bacteria colonies grown on solid media in petri dishes. For fast computation time and high integrability, the machine learning was implemented on FPGA (Field Programmable Gate Array) chips. **Material and methods:** The first step of image analysis is to train the system to learn to detect the colour of bacteria colony from a given image. Therefore, on the training image, we converted all areas out of interest with black colour and left only the areas representing the bacteria colony who's colour we want to be learned by the system. Using a script written in Octave® program we determined the weight parameters for each neuron. Second, a neural network for colour detection was built in VHDL, where every pixel from the acquired image was analysed based on the RGB (Red, Green, Blue) value, resulting a neural network with three 8-bit input signals. These input signals are connected to tree neurons in hidden layer and the outputs from the hidden layer are connected to the neuron in the output layer. Each neurons performs the calculations using the input signals, weight parameters and sigmoid function. The resulting bit file of the VHDL project was uploaded to a remote lab situated at Hochschule Bonn-Rhein-Sieg from Germany where different FPGA modules are available for testing vision-based machine learning projects. **Results :** Images of bacterial colonies were obtained from the laboratory of Clinical County Emergency Hospital of Targu Mures for both training and testing the algorithm. The resulting image where the system identified the bacterial colony was compared with the original image and the difference was 4.42%. **Conclusions:** The results showed that the machine learning based approach for colour detection can be used for microbial growth identification and this can be the foundation for bacteria colony characterisation based on their shape, size and other physical properties.

Keywords: Machine Learning, FPGA, Bacterial growth identification

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