# Abstracts of the International Students' Congress of Bucharest (2024)

IJMS International Journal of Medical Students

IJMS INTERNATIONAL JOURNAL of MEDICAL STUDENTS

Abstracts



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**Poster Session**
**ORIGINAL STUDIES**

01. **FREQUENCY OF CATALASE AND SUPEROXIDE DISMUTASE GENE VARIATIONS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS**

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**INTRODUCTION**: Systemic lupus erythematosus (SLE) is a disease of inflammatory and autoimmune origin in which genetic predisposition plays a significant role in etiopathogenesis. Previous studies have shown that the parameters of oxidative stress, that is lipid peroxidation, oxidative damage of proteins, nucleic acids significantly increased in patients with SLE. The aim of our study was examination of the frequency of gene polymorphisms of the antioxidant enzymes catalase (rs1001179 and rs7943316) and superoxide dismutase (rs4880) in patients with systemic lupus erythematosus. **MATERIALS AND METHODS**: The study included 157 subjects, 65 subjects suffering from systemic lupus erythematosus and 92 healthy subjects. The following genetic polymorphisms were determined on the DNA samples: CAT A-21T (rs7943316), CAT C-262T (rs1001179), SOD Ala16Val (rs4880). For the determination of gene polymorphisms, the DNA amplification chain reaction method was used, followed by the analysis of restriction fragment length polymorphism. **RESULTS**: The distribution of rs4880 polymorphism genotypes showed statistically significant results between SLE patients and healthy subjects. Analysis of the distribution of rs1001179 and rs7943316 polymorphism genotypes did not show statistically significant differences between the examined groups. **CONCLUSION** Oxidative stress, as one of the main mechanisms in the pathogenesis of autoimmune diseases such as lupus, can also occur as a result of the inactivity of mitochondrial superoxide dismutase, which remains in the mitochondrial membrane due to structural disorders that occur as a result of the presence of the Val allele in the MnSOD gene.

02. **COMPARATIVE ANALYSIS OF THE HISTOMORPHOLOGICAL CHARACTERISTICS OF FETAL AND ADULT CARDIAC MUSCLE**

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Assoc. Prof. Ivan Čapo, MD, PhD[1,2], Assoc. Prof. Jelena Ilić Sabo, MD, PhD[1,2]
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**INTRODUCTION**: The heart is a muscle pump that distributes blood throughout the body. The myocardium, made up of heart muscle, occupies the middle and thickest part of the heart wall. It consists of endomesium surrounding contractile, conducting, and endocrine cardiomyocytes. The aim of our study was comparative analysis of the histomorphological characteristics of fetal and adult heart muscle: nuclei shape, presence of multinucleated fibers, presence of lipofuscin and surface of the endomesium. **MATERIALS AND METHODS**: The analysis included 26 fetal heart muscle samples autopsied after spontaneous or induced abortion, as well as 26 adult heart muscle samples. The sample for morphological examination was treated in a systematic manner, viewed with a ZEISS Axioscope 5 light microscope, and shot with a ZEISS Axiocam 105 color camera. **RESULTS**: An analysis of the nucleus shape parameter revealed a moderate association between the type of sample (fetal or adult heart muscle) and the nucleus shape, but a significant correlation with the type of sample was demonstrated for the presence of lipofuscin. While the endomesium surface differs significantly in adult and fetal cardiac muscle samples. **CONCLUSION**: Fetal heart muscle samples are characterized by a spindle-shaped nucleus, with a large number of binucleated fibers, while the presence of lipofuscin and the amount of the endomysium is significantly larger in adult samples.

03. **CAN SOCIAL MARKETING HAVE AN IMPACT IN MELANOMA PREVENTION?**

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**INTRODUCTION**: Social marketing has emerged as a powerful tool in health promotion by increasing the adoption of healthy behaviors. As melanoma has become a public health issue, it is necessary to use social marketing techniques to educate the population regarding the prevention and early diagnosis of this condition. The study aims to evaluate the impact of a social marketing campaign whose main objective is the prevention of malignant melanoma and to assess the comprehension of information presented in the print material. **MATERIALS AND METHODS:** The research methodology consisted of designing an analytical, observational study. The study population was made up of a sample of 150 subjects, patients from a public hospital's dermatovenerology department. The participants met the following inclusion criteria: they are at least 18 years old, they speak Romanian, they completed an informed consent. The study was conducted over a period of 2 weeks. During this time, participants were provided with an informational printout presenting the ABCDE technique for nevi examination. Subsequently, a questionnaire was administered using the Google Forms application online. The questionnaire consisted of 33 questions. **RESULTS:** 96% of patients believed that increasing their level of medical knowledge in the field of dermatology would be beneficial to them. Over 90% of participants agreed that the print contained a significant level of information for effectively conveying the message. 96% found the message of the print useful. 94% considered themselves more informed after viewing the print, and 92.7% wished to see similar prints in the future. Additionally, 97.3% agreed that the message of the print is convincing, and 86% stated that they intend to seek a dermatological consultation after viewing the print. **CONCLUSION:** The social marketing campaign succesfully impacts participants' intention to seek medical care, in this study almost all responders stating that they would seek a specialist consultation after viewing the print. The informational print contains a sufficient level of information to effectively communicate the message, is persuasive, and includes images that are both visually satisfactory and concordant with the message, thus being appreciated by patients as useful.

04. **COMPARATIVE ANALYSIS OF HISTOMORPHOLOGICAL CARACTERISTICS OF FETAL AND ADULT SKIN**

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**INTRODUCTION:** The skin, our body's largest organ, plays vital role in shielding, metabolism, temperature regulation, sensation, and waste removal. Embryonically, the skin consists of epidermis that originates from ectoderm, dermis that originates from mesoderm and hypodermis that separates skin from the bones and muscles. **MATERIALS AND METHODS:** The study was conducted at the Center for Pathology and Histology of the Clinical Center of Vojvodina. The obtained material was observed under a ZEISS Axioscope 5 light microscope. Microphotographs were analyzed using Image J software, and for statistical analysis, we used Microsoft Excel and BM SPSS. **RESULTS:** Keratinization is more pronounced in adults compared to fetal samples and increases with gestational age. Parakeratinization differs significantly between adult and fetal samples, but not among fetal groups. Thickness of the epidermis also shows statistically significant differences among groups, while the dermis does not show statistical significance. Melanin and the presence of adnexa in the epidermis are also influenced by gestational age and show significant differences between fetal and adult samples. **CONCLUSION:** There are significant histomorphological differences between fetal and adult skin in terms of keratinization, epidermal thickness, melanin presence, and the presence of adnexa.

05. **DYSREGULATION OF GENES INVOLVED IN THE LONG-CHAIN FATTY ACID TRANSPORT IN PANCREATIC DUCTAL ADENOCARCINOMA**

Anastasia-Maria Dobre[1], Radu-Cristian Poenaru[1,2], Maria Dobre[1,2]

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**INTRODUCTION**: Pancreatic Ductal Adenocarcinoma (PDAC) is a type of cancer characterized by great severity, low survival rate and limited range of treatments. Modifications in lipid metabolism such as aberrant de novo lipid synthesis and reprogrammed lipid metabolism have been theorized to be linked with the evolution of this malignancy. The aim of this study is the identification of the possible involvement of lipid metabolism in PDAC by analyzing the expression level of the most relevant genes implicated in the long-chain fatty acid import into cell, in both tumoral and non-tumoral tissues. **MATERIALS AND METHODS:** The gene expression analysis of FASN, CD36, SLC27A1, SLC27A2, SLC27A3, SLC27A4, SLC27A5, ACSL1, and ACSL3 was conducted by qRT-PCR in 24 PDAC tissues and 11 samples from non-tumoral pancreatic tissues. The nonparametric Mann–Whitney test was used to assess the statistical differences between the two groups and a p-value of <0.05 and a fold change (FC) value of ≤0.5 and ≥ 2 were chosen to identify the significant dysregulation between the two groups. **RESULTS:** The investigation revealed significant upregulation of three fatty acid transporters: SLC27A2 (FC = 5.66; p= 0.033), SLC27A3 (FC = 2.68; p= 0.040), and SLC27A4 (FC = 3.13; p = 0.033) and two long chain acyl-CoA synthetases: ACSL1 (FC = 4.10; p <0.001), and ACSL3 (FC = 2.67; p= 0.012) in the tumoral tissue compared to the non-tumoral tissue. We also found the over-expression of SLC27A3 (FC = 3.28; p = 0.040) comparing seventeen patients presenting lymph node invasion with seven patients without. **CONCLUSION:** Our findings highlight the dysregulation of genes involved in the long-chain fatty acid import into cell in PDAC tissue. The results may be useful for inspiring extensive studies in vitro and in vivo to better understand the molecular mechanism underpinning the relation between lipid metabolism and PDAC. This research was funded by the Romanian Ministry of Research, Innovation and Digitization under grant n. PN 23.16.02.04

## Poster Sessions
## REVIEWS

01. **DYSREGULATION OF GENES INVOLVED IN THE LONG-CHAIN FATTY ACID TRANSPORT IN PANCREATIC DUCTAL ADENOCARCINOMA**

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### 01. A BETTER TOOL FOR A BETTER VIEW: SMILE VS FS-LASIK

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**INTRODUCTION**: The most common refractive ocular pathology is myopia and to treat it, science has developed two types of laser: Femtosecond Laser-Assisted in Situ Keratomileusis (FS-LASIK) and Small Incision Lenticule Extraction (SMILE). The aim of the study is to highlight which one has fewer side effects. **MATERIALS AND METHODS:** An extensive search of the Pubmed database was conducted using the following keywords: ,,FS-LASIK laser'', ,,SMILE laser''. Articles from the last 6 years were included and were composed of reviews and meta-analyses. Only articles addressing which laser had a better Tear Breakup Time (TBUT), had a smaller Maximum Posterior Elevation (MPE) and which show the difference between the effects of Corneal Hysteresis (CH) and Corneal Resistance Factor (CRF) were included. Studies that lacked inclusion criteria were excluded. Bias risk was not evaluated and PRISMA guidelines were used for data abstraction. **RESULTS:** Out of the total of 12 studies, only 6 were used, involving a total of 1172 human eyes. Aris Konstantopoulos et al demonstrated that ectasia developed in LASIK and SMILE cases; following LASIK, the Maximum Posterior Elevation (MPE) became significantly increased at week 2 compared to week 6 for SMILE cases. SMILE showed a smaller MPE than LASIK (17.73 vs. 22.75 µm at week 2). According to Yu-Chi Liu, SMILE group has better results in TBUT and corneal staining. After 6 months, there was a significant difference in TBUT scores between SMILE (7.06 seconds) and FS-LASIK (4.97 seconds) groups (P=0.030). Finally, corneal hysteresis (CH) and corneal resistance factor (CRF) has the following results: SMILE versus LASIK was 1.31 (95% CI, 0.54 to 2.08; $p < 0.001$; $I2 = 77\%$) **CONCLUSION:** These findings suggest that SMILE may have a smaller MPE than LASIK but also advantages in terms of preserving corneal biomechanical strength (CH/CRF) after surgeries and a better TBUT.

## Poster Session
## CASE REPORTS

### 01. AN UNUSUAL, RARE, SPECIFICALLY LOCATED SKIN CONDITION: BUSCHKE-FISCHER-BRAUER SYNDROME

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**BACKGROUND**: Buschke-Fisher-Brauer syndrome is a rare hereditary autosomal dominant disease. This syndrome is part of the palmoplantar keratodermas(PPK) that are clinically characteristic by abnormal keratinisation that only affects hands and feet. Differential diagnosis is crucial to rule out the possibility of paraneoplastic syndromes which can be associated other hyperkeratodermas and can be concluded by a histopathological examination. **CASE PRESENTATION**: We report a case of a 84-year-old man with postprandial epigastralgia, nausea, asthenia, retrosternal pain at efforts of moderate intensity, loss of appetite associated with slight weight loss and type II arterial hypertension. During the clinical examination, multiple yellow and brown hyperkeratotic papules were detected on the palmar and plantar surfaces of the hands and feet, without being localised on other areas of the body. The skin pathology developed insidiously, having its onset about 41 years before, with small hyperkeratotic papules, which increased in size over the years . Patient mentioned that his two sons share the same skin condition. The patient refused to perform a biopsy from the level of hyperkeratotic macules; the diagnosis of BFB syndrome could however be established due to the typical appearance of the hyperkeratoses, the classic palmo-plantar disposition, and due to the apparent autosomal dominant transmission with onset at adulthood. Normal PSA(Prostatic Specific Antigen) level along with the presence of a sigmoid diverticulitis without obvious inflammatory or tumoral lesions had helped in making the differential diagnosis of other hyperkeratodermas associated with neoplasms. **CONCLUSION**: Buschke-Fisher-Brauer syndrome is a rare hereditary dermatological condition that is part of the punctate palmoplantar keratoderma group. We presented the case of an elderly patient with a long evolution of palmoplantar keratoderma, confirmed as Buschke-Fisher-Brauer syndrome by the typical clinical appearance, the onset in adulthood and the positive family history for this pathology. The particularities of the case are represented by the rarity of this syndrome and the long asymptomatic evolution of hyperkeratosis in the patient.

## 02. BEYOND STONES: TREATMENT CHALLENGES OF A LIFELONG CONDITION, AND EXPLORING NOVEL APPROACHES

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**BACKGROUND**: Cystinuria is a genetic disorder characterized by high renal excretion of cystine and dibasic amino acids, leading to kidney stone formation. It is primarily inherited in an autosomal recessive manner, although some mutations in the SLC3A1 or SLC7A9 genes may exhibit semi-dominant traits. These genes encode the rBAT heavy subunit and the cystine-dibasic amino acids transporter, essential for its reabsorption in the proximal tubules. Impaired transport and increased cystine excretion cause supersaturation and stone formation, especially at acidic urine pH. **CASE PRESENTATION**: We present the case of a 54-year-old male who was diagnosed with severe acute flank pains since his adolescence. Ultrasonography confirmed the presence of stones in the kidneys, and urine sediment contained hexagonal crystals. The amino acids chromatography indicated high levels of cystine, lysine, ornithine, and arginine, confirming the origin of the stones. Throughout his life, he has undergone more than 20 surgical interventions, as preventing stone formation has proven challenging. Despite the efforts to manage the condition with restrictive diet, urinary alkalinizers, and thiol drugs, he continued to exhibit the formation of cystine stones, as well as mixed stones, with salts formed as a result of urine alkalinization. Besides, he experienced side effects from tiopronin, a thiol drug used to reduce cystine levels. Management of cystinuria focuses on dietary modifications, increased hydration, and pharmacological interventions. Lipoic acid, used as an antioxidant, has emerged as a promising therapeutic agent, as it may enhance cystine solubility and decrease urinary cystine levels. Furthermore, as a chronic disease, a potential link between telomere length and renal health could indicate that shorter telomeres may be associated with increased oxidative stress and renal dysfunction. Exploring this relationship could provide new insights into the pathophysiology of cystinuria and guide future therapeutic strategies. **CONCLUSION**: This case highlights the importance of clinical, imaging, and biochemical analyses in diagnosing cystinuria. Early recognition and management are vital for preventing recurrent stone formation and associated complications. Understanding a chronic disease should also consider the implications of telomere biology, as telomere dynamics may play a role in renal health and the pathophysiology of this disorder.

## 03. A RARE CAUSE OF UPPER LID SWELLING: CASE REPORT

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**BACKGROUND:** Cutaneous leishmaniasis (CL) is an infection caused by protozoa belonging to the genus Leishmania. The disease is transmitted by the bite of sandfly (Phlebotomus). Reservoirs are represented by dogs, mice, rats, wild rodents and, more rarely, humans. In Tunisia, CL is endemic. Leishmania infantum, transmitted by Phlebotomus papatasi and Phlebotomus perfiliewi, is responsible for the majority of cases. Clinically, CL is usually characterized by polymorphous lesions located in an uncovered area. The eyelid is rarely involved. It represents 2.5% of CL cases. The most common aspect of lid leishmaniasis is chalazion-like. However, it can rarely mimic other dermatoses such as tuberculosis and palpebral tumours. We present an atypical case of CL characterized by uncommon localization (the hole upper lid) and form (pseudo-tumoral). **CASE PRESENTATION**: A 64-year-old patient was referred to our department for suspicion of a palpebral tumor. The lesion appeared 1 month before as a 1cm-painless papule of the right upper lid. The lesion involved all the eyelid which became inflamed with an oozing crusted ulceration and budding edges, responsible for a total palpebral occlusion . The lower eyelid was the site of sporotrichoid nodules in a linear distribution. Ocular examination showed conjunctival hyperaemia with yellowish secretions. The presence of typical papulonodular lesions on the forearm and ear lobule led us to perform a skin smear confirming the diagnosis of CL. The treatment consisted of intramuscular injections of meglumine antimoniate (glucantime®) at a dose of 60 mg/Kg/day for 21 days . The outcome was good with partial opening of the eye and healing of the conjunctivitis after 7 days of treatment . After 1 month, the patient was able to completely open his eye and the lesion had totally desinfiltrated. **CONCLUSION:** Clinical diagnosis of ocular CL can be challenging, especially when occurring in non-endemic areas. It can simulate other lesions such as tumors, including basal cell carcinoma, especially in its ulcerative form in elderly patients. CL rarely involve the eyelids, probably because the movements of the lids prevent the Phlebotomus from biting the skin in this region . However, the peak of crepuscular activity of Phlebotomus may explain the emergence of cases of palpebral CL. Lid lesions may be caused by the bite, inoculation of the lid by the patient's fingers, lymphatic dissemination, Koebner phenomenon or contiguous spread from a neighbouring site . The most common aspect of lid leishmaniasis is a chalazion-like lump but the tumor-like form was reported in rare cases. Contiguous spread from the skin of the lid can extend to involve the conjunctiva, sclera, and even cornea, with development of interstitial keratitis. Secondary bacterial infection with destruction of underlying soft and bony tissue is common. Ocular leishmaniasis is considered as a potentially blinding disorder; early diagnosis and rigorous treatment may prevent blinding complications.

## 04. BEYOND THE BASICS: MANAGING BULBAR ISCHEMIC STROKE AND MYASTHENIA GRAVIS IN ELDERLY PATIENT

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**BACKGROUND**: Myasthenia gravis (MG) is an autoimmune neuromuscular disorder marked by fluctuating muscle weakness that can affect the ocular, bulbar, limb, and/or respiratory muscles. This weakness results from antibodies targeting the acetylcholine receptor (AchR), muscle-specific kinase (MUSK), or lipoprotein-related protein 4 (LRP4) in the postsynaptic membrane at the neuromuscular junction. MG can develop at any age, but it typically shows a bimodal distribution in onset age and sex. There is an early peak in the second and third decades, predominant in females, and a later peak in the sixth to eighth decades, predominant in males. **CASE PRESENTATION:** We report the case of a 77 year-old female with no significant history. The patient presented to the neurology department with symptoms suggestive of a bulbar ischemic stroke, including dysarthria and dysphagia, which began two days prior. Neurological examination showed she was conscious with a Glasgow Coma Scale score of 15, slightly reduced reflexes in the left limbs, right plantar flexion, and left plantar indifference. A cranial CT revealed no abnormalities, but MRI identified a small bulbar ischemic stroke. MDCT of the thorax showed a moderately iodophilic mass in the left paramediastinal area, close to the left superior pulmonary vein but not invasive. Her anti-AchR antibodies were elevated (10.14 nmol/L; normal <0.25 nmol/L), and neurophysiological testing of the right facial nerve showed decreased action potential in the orbicularis oculi muscle. Shortly after admission, she experienced her first myasthenic crisis with severe respiratory failure. Due to the location of the thymic mass, surgery was not feasible. Three sessions of plasmapheresis improved her symptoms, and she gradually responded to cholinesterase inhibitors and immunosuppressive therapy. Approximately two months post-discharge, she was relatively independent, mobilizing with unilateral support. **CONCLUSION:** The presented case highlights the importance of early diagnosis and treatment of myasthenia gravis for a better outcome. Challenges arise when two acute neurological conditions with similar clinical symptoms are present in an elderly patient. However, regardless of the severity of these conditions, we must take rapid action to improve the patient's quality of life.

## 05. TRIALS AND TRIUMPHS IN MANAGING ACUTE NECROTIZING PANCREATITIS – A CASE REPORT

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**BACKGROUND**: Acute pancreatitis is an inflammatory process of the pancreatic parenchyma and surrounding tissues, with 5-10% of cases progressing to necrotising pancreatitis. Risk factors include metabolic disorders and cholelithiasis. This case report emphasizes the importance of compliance to updated therapeutic guidelines and conducting regular follow-ups. **CASE PRESENTATION:** In October 2023, a 70-year-old woman, T.Z., presented with severe epigastric pain radiating in a band-like pattern to the left upper quadrant and back, associated with nausea and emesis. Her medical history featured obesity, stage 2 arterial hypertension, and type 2 diabetes, but no significant intervention. Physical examination revealed altered mental status, anxiety, abdominal distension, and epigastric tenderness. Laboratory tests showed elevated serum amylase (783U/L) and lipase (2560U/L), increased liver enzymes (ALT=397U/L, AST=787U/L), elevated LDH (906U/L) and CRP (24.6 U/L). An abdominal ultrasound depicted a well-defined fluid collection in the omental bursa (80x39mm), with inner echogenic elements, an enlarged hypoechoic pancreas and decreased peristalsis. Differential diagnosis included acute mesenteric ischemia. An abdominal contrast CT scan confirmed an enlarged pancreas with lipomatosis, omental bursa fluid collection and patent atheromatous plaques in the abdominal aorta. The final diagnosis was acute necrotizing pancreatitis, complicated by acute liquid collection and a pancreatic pseudocyst. Treatment included fluid therapy (saline solution), analgesics, antiemetics (Metoclopramide), and antibiotics (Meropenem). The patient was closely monitored through monthly follow-ups, which she diligently adhered to. Conservative therapy yielded significant improvement, and further ultrasounds confirmed the complete resolution of the fluid collection (December 2023) and the pseudocyst (April 2024). In May 2024, a follow-up ultrasound revealed cholelithiasis with choledocholithiasis, showing echogenic intraluminal foci and posterior acoustic shadowing. This triggered another episode of acute pancreatitis. A successful laparoscopic cholecystectomy was performed, resulting in no adverse effects, and an uneventful postoperative course with regular follow-ups. **CONCLUSION:** This case aligns with the 2018 ESGE and AGA guidelines for managing acute pancreatitis, highlighting key strategies, such as the diagnostic importance of ultrasound and contrast CT, fluid resuscitation with saline solution, antibiotic prophylaxis with carbapenems in acute necrotizing pancreatitis and cholecystectomy for acute biliary pancreatitis. The prompt recognition and treatment of cholelithiasis, which caused acute pancreatitis, underscores the critical need for regular follow-ups.

## 06. A HIDDEN THREAT: LATE-ONSET OBSTRUCTIVE JAUNDICE AFTER DIAGNOSIS OF DUODENAL ADENOCARCINOMA

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**BACKGROUND**: Duodenal adenocarcinoma is a rare but aggressive malignancy, accounting for less than 1% of all gastrointestinal cancers. Despite the unfavorable prognosis and the non-resectability in 25% of the cases, surgical treatment is curative. This patient's case of obstructive jaundice three years following surgery for duodenal adenocarcinoma focuses on the late complications that can occur in the context of this rare malignant entity. **CASE PRESENTATION:** A 73-year-old man was admitted to the gastroenterology department in May 2021 with epigastric pain that persisted for a month, being associated with nausea, vomiting and fatigue. Medical history included stage 2 hypertension, atrial fibrillation, chronic coronary syndrome and deep vein thrombosis. Upper GI endoscopy revealed edematous and infiltrated mucosa between D2 and D3 segments, while the histopathological examination confirmed the diagnosis of duodenal adenocarcinoma. CT scan showed tumoral invasion at the level of the upper mesenteric pedicle, the mesocolon and the mesentery, thus the diagnosis of stage IIb (T4N0M0) duodenal adenocarcinoma was established. The therapeutic management consisted of gastroenteroanastomosis, along with adjuvant chemotherapy. Three years following the procedure, the patient returns, complaining of lower abdominal pain. Bloodwork showed moderate normochromic normocytic anemia, leukocytosis with neutrophilia, inflammatory syndrome, hyperglycemia, hepatocytolysis syndrome, hyperbilirubinemia due to direct bilirubin and cholestasis syndrome. Abdominal ultrasound revealed mild bilateral dilatations of the intrahepatic bile ducts, the common bile duct of 25 mm, the Wirsung duct of 4.5 mm, and a 50/45 mm liver tumor formation in the VII lobe, along with a small amount of ascites at the pelvic level. In this regard, a diagnosis of obstructive jaundice complicated with Tokyo class II acute cholangitis is made, with suspicion of tumoral invasion at the choledochal level. **CONCLUSION:** This case of duodenal adenocarcinoma draws attention to the manifold risks and unforeseen challenges that may arise when establishing the therapeutic approach. Neoplastic spread typically occurs through the lymphatic system, regional lymph nodes, liver, peritoneum, and nearby organs, particularly the pancreas, via metastases. Obstructive jaundice in adults should be evaluated to rule out malignant biliary obstruction, including duodenal adenocarcinoma, and should warrant a search for hepatoduodenal ligament lymphadenopathy, bile duct wall thickening, and liver metastasis.

## 07. MASSIVE HEMORRHAGE: WHEN TUMORS AND VASCULAR MALFORMATIONS MEET - A CASE REPORT

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**BACKGROUND**: Dieulafoy's lesion (DL) is a malformation of the submucosal artery, which occurs due to a failed attempt to constrict and match the vasculature of the mucosa. Rather than tapering, it remains ten times larger than normal mucosal arteries, making it prone to excessive bleeding. Colonic DLs were found in only 0.09% of all colonoscopies performed for lower gastrointestinal bleeding, although the actual incidence is likely higher because the diagnosis remains difficult.

**CASE PRESENTATION:** An 83-year-old male patient complained of rectal bleeding with a sudden onset and epigastric pain that began two days prior. His medical history includes hypertension, erythematous gastritis, hemorrhoidal disease, and a cholecystectomy. Initially, laboratory findings showed anemia, with a decreasing hemoglobin (Hb) level of 11.2 g/dL. The patient underwent a colonoscopy, which revealed a lateral spreading tumor (LST) Paris type IIA in the caecum, assessed with great difficulty due to the massive amount of fresh blood and multiple blood clots. In proximity to the LST and the ileocecal valve, a bleeding DL was also found, and mechanical hemostasis was achieved using five endoclips. Another episode of rectal bleeding following an enema led to a continuous decline in Hb levels (7.4 g/dL). For further assessment, a CT angiography was performed, but no signs of active bleeding were identified. Additionally, the patient received four red blood cell transfusion units, and another endoscopic hemostasis was performed due to rebleeding. Postprocedural evolution was favorable, and the patient was discharged. A follow-up will assess the feasibility of endoscopic resection of the cecal lesion. **CONCLUSION:** Given their various manifestations and potential life-threatening risks, it is crucial not to disregard DLs in the differential diagnosis of lower gastrointestinal bleeding. The particularity of this case resides in the presence of an LST in the same anatomical area as the DL, raising several questions regarding the optimal treatment approach. Endoscopic clipping is reported to attain adequate hemostasis with minimal risks, while the newly identified tumor suggests that a right hemicolectomy may eventually be needed. Will awareness, improved recognition, and endoscopic therapy result in complete resolution, or will the LST play a factor in ultimately opting for a surgical approach?

## 08. AN ULTRASOUND-BASED DIAGNOSIS OF AORTO-MESENTERIC CLAMP SYNDROME

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**BACKGROUND**: Aorto-mesenteric clamp syndrome, also known as superior mesenteric artery (SMA) syndrome, results from the compression of the third portion of the duodenum and the left renal vein by a vascular clamp formed by the SMA and the aorta. The narrowing of the aorto-mesenteric angle is due to the loss of perivascular fatty tissue. The incidence of SMA syndrome has been estimated at 0.1% to 0.3%, with a higher prevalence in young adult females. It is often misdiagnosed due to vague upper gastrointestinal symptoms; however, a rigorous ultrasound examination is a valuable tool for early detection. **CASE PRESENTATION:** A 42-year-old female patient was referred due to intense postprandial abdominal pain, accompanied by bloating, vomiting, and significant weight loss (15 kg in one year). She had previously been diagnosed with postprandial distress syndrome. An ultrasound (US) exam was performed in the emergency room, revealing narrowing of the space between the aorta and SMA, with no other significant abnormalities, which raised suspicion of aorto-mesenteric clamp syndrome. A contrast-enhanced computed tomography (CE-CT) scan was performed to confirm the diagnosis. US findings: Aorto-mesenteric angle below 30° (reference range: 38-56°), compression of the duodenum and the left renal vein. CE-CT findings: Aorto-mesenteric angle of 23° at the point of SMA emergence, compression of the third portion of the duodenum, and mild gastric outlet obstruction. Due to the patient's symptoms and significant weight loss, aggressive nutritional therapy was initiated as the initial treatment, consisting of a high-calorie diet (>45 kcal/kg of ideal body weight/day) and a high-protein diet (>1.5 g of protein/kg of ideal body weight/day). After three months of conservative treatment, the patient gained approximately 5 kg, with a good long-term prognosis. In case of persistent symptoms, surgery is indicated, with the most common procedure being duodenojejunostomy. **CONCLUSION:** Aorto-mesenteric clamp syndrome is a critical condition characterized by long-term weight loss and vague gastrointestinal symptoms that can mimic other disorders. A careful examination of the patient, along with clinical suspicion and a thorough ultrasound scan, are key components in establishing the diagnosis.

## 09. OBSTACLES KEEP COMING: MANAGING LIVER CIRRHOSIS WITH REFRACTORY ASCITES AND FLOOD SYNDROME

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**BACKGROUND**: Liver cirrhosis is an advanced stage of progressive hepatic fibrosis characterized by diffuse nodular regeneration and distortion of hepatic vascular architecture. The major consequence is portal hypertension which manifests clinically as ascites, esophageal varices, hepatic encephalopathy, and hepatorenal syndrome (HRS). Despite maximal medical therapy, refractory ascites is defined as early fluid recurrence after drainage. Approximately 20% of patients eventually develop an umbilical hernia, which has a 30% mortality rate in complicated cases. A rare life-threatening complication is Flood syndrome characterized by the rupture of an umbilical hernia with spontaneous drainage of the ascites fluid. **CASE PRESENTATION:** A 62-year-old woman with liver cirrhosis of mixed etiology ethanolic and viral hepatitis C, classified as Child-Pugh B and with a MELD-Na score of 12, grade 3 refractory ascites, and multiple comorbidities, presented with spontaneous drainage of ascitic fluid from umbilical hernia. This led to post-paracentesis circulatory dysfunction (PPCD) requiring electrolyte replacement solutions, albumin, and interruption of diuretic treatment. The hernia was manually reduced and treated locally until reevaluation after correction of the renal dysfunction. Despite treatment, the patient developed type one hepatorenal syndrome and was started on terlipressin. Although renal function initially improved, the treatment had to be stopped due to acute diarrhea as an adverse effect. Subsequently, the case became more complicated with the development of a distended abdomen and absence of intestinal transit, revealing an incarcerated umbilical hernia, which was treated surgically. While the patient initially showed a favorable evolution, her condition rapidly deteriorated. She developed grade 3 hepatic encephalopathy, with worsening scores on liver disease assessments, Child-Pugh C11 and MELD-Na 30, became hemodynamically unstable with multi-organ failure, and eventually experienced cardiopulmonary arrest with no response to resuscitation. **CONCLUSION:** This case illustrates the management of various complications of decompensated liver cirrhosis with ascites, including the particularity of Flood syndrome, complicated with PPCD after spontaneous drainage of the ascitic fluid. The complexity of the case was compounded by further complications, such as HRS, interruption of effective treatment due to adverse effects, incarcerated hernia, and acute hepatic insufficiency superimposed on chronic liver disease.

## 10. WHEN THE KIDNEYS FAIL SO DOES THE HEART

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**BACKGROUND**: Cardiovascular disease in end-stage kidney disease (ESKD) remains the leading cause of morbidity and mortality following kidney transplantation (KTx). Preoperative cardiac assessment is still a topic of debate, lacking high-quality evidence guidelines. **CASE PRESENTATION:** We present the case of a 51-year-old patient who underwent a second live-donor KTx, after a first failing graft transplanted in 2002. The medical history mentioned stage II arterial hypertension, non-insulin dependent type II diabetes, B and C hepatitis co-infection, stage 2 obesity, and two urethral strictures surgically corrected. The preoperative cardiac assessment showed no conditions that would contraindicate transplantation: ECG, transthoracic echography (TTE) and functional cardiac assessment through Dobutamine stress echocardiography showed normal results, except o mild left ventricular hypertrophy. Kidney transplantation surgery proceeded without any significant complications. The immediate postoperative period was uneventful, with immediate graft urinary output, with no hemodynamic or respiratory complications. Fourteen hours after KTx, the patient developed a sudden cardiac tachyarrhythmia, accompanied by abdominal pain and agitation. A 12 lead ECG has shown a large complexes tachyarrhythmia. Arterial blood gasses reveled gradually increasing lactate levels, interpreted as signs of poor tissue perfusion. Emergency TTE showed a mildly decreased ejection fraction of the left ventricle (40%), an apex akinesis, globally reduced contractility and a dilatation of the inferior vena cava without inspiratory collapse. Due to the clinical rapid deterioration, and failed treatment course with antiarrhythmics, an electric cardioversion was performed, to potentially improve the cardiac output. The results of the electric cardioversion were limited, with the tachyarrhythmia reoccurrence after a few hours. Highly sensitive troponin levels were slightly elevated in the beginning, with rapid increase at 3 and 6 hours, up to a value of 25000 ng/ml. The patient underwent a emergency coronarography, which revealed a chronic occlusion of both the left main and circumflex arteries, with an acute right coronary occlusion. The cardiogenic shock was unresponsive to the therapeutic measures and led to multiple organ disfunction, and eventually to death. **CONCLUSION:** In high-risk patients, such as those with ESKD, prediction of major cardiovascular events is difficult. Normal preoperative cardiac assessment, including stress tests, can often, miss patients with coronary artery disease.

## 11. CHALLENGES OF PROLONGED ECULIZUMAB THERAPY IN ATYPICAL HEMOLYTIC UREMIC SYNDROME

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**BACKGROUND**: Atypical hemolytic uremic syndrome (aHUS) is a rare triad of microangiopathic hemolytic anemia, thrombocytopenia, and acute renal failure which is potentially life-threatening. It stems from an uncontrolled activation of the complement system triggered by genetic mutations or autoimmune conditions. Eculizumab is a terminal complement inhibitor effective in managing aHUS. **CASE PRESENTATION:** An 8-year-old with no significant medical history was admitted to St. Mary's Hospital, Iasi, in November 2023, presenting with multiple soft stools, hematochezia, lower limb edema, jaundice, and oliguria. Urinalysis showed microscopic hematuria and proteinuria. Tests revealed microangiopathic hemolytic anemia (7-8% schistocytes), falling hemoglobin (9.9g/dL to 5.6g/dL), thrombocytopenia (46 000/mm$^3$), and impaired renal function (creatinine clearance 15.5 ml/min/m$^2$, creatinine 3.55 mg/dL, urea 132 mg/dL). The presentation suggested atypical hemolytic uremic syndrome (aHUS), confirmed by a negative Shiga toxin assay. He began hemodialysis and plasmapheresis, followed by Eculizumab (Soliris). Timely anti-meningococcal and anti-pneumococcal vaccines were administered, considering the risk for severe infections associated with complement inhibiting therapy. His condition improved significantly following several doses of Eculizumab (hemoglobin: 10.4g/dL, thrombocytes: 375 000/mm$^3$, serum creatinine 0.71 mg/dL). Genetic testing identified a mutation in the p.Gly292Val gene, associated with reduced levels of factor I, which is implicated as the causative factor in the development of aHUS. During a reevaluation in April 2024, while receiving the 13th dose of Eculizumab, hepatocellular injury syndrome was identified. Given the absence of other clinical signs or symptoms of liver dysfunction, treatment was maintained, with close monitoring and regular follow-up testing. **CONCLUSION:** This case highlights the therapeutic benefits of long-term Eculizumab treatment in managing aHUS associated with Factor I deficiency, while raising awareness of potential hepatic side effects. Continuous monitoring is crucial in pediatric patients with chronic aHUS treatment to detect changes in condition, manage complications, and ensure optimal outcomes.

## 12. IDIOPATHIC RETROPERITONEAL FIBROSIS: A CASE REPORT

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**BACKGROUND**: Chronic periaortitis (CP) is a rare disease characterized by development of retroperitoneal fibro-inflammatory tissue which usually surrounds the infrarenal part of the abdominal aorta and the common iliac arteries. It can extend to neighboring retroperitoneal structures causing severe complications, most commonly affecting the ureter which determines obstructive uropathy and secondary kidney disease. CP has two subtypes, the non-aneurysmal form, known as idiopathic retroperitoneal fibrosis (IRF), and aneurysmal forms. It can be idiopathic or secondary to pathological processes, such as malignancy, infection, radiotherapy, drugs, major abdominal surgery and it can develop isolated or associated to systemic or organ-specific autoimmune diseases. **CASE PRESENTATION:** A 54 years-old, diabetic, hypertensive man presents for bilateral lower extremity edema. He has a history of sharp, intense, nocturnal, right flank abdominal pain with referred back pain, for which multiple imagistic studies (ultrasonography, CTs, MRIs) were done in previous admissions. These showed an inferior retroperitoneal mass which surrounded the infrarenal region of the abdominal aorta, the iliac arteries and the inferior vena cava, associating lumbo-aortic polyadenopathies, periaortic tissue densification, right ureter entrapment, reduced dimensions of the right kidney and right uretero-hydronephrosis (UHN). All the findings were suggestive of retroperitoneal fibrosis. For the management of UHN a ureteral JJ stent was placed. In the current admission, an extensive diagnostic work-up was done for etiological assessment of the disease. Blood tests showed impaired renal function (elevated blood urea nitrogen and creatinine), elevated inflammation markers (erythrocyte sedimentation rate, C-reactive protein) and slightly positive anti-nuclear antibodies (ANAs). Imagistic studies showed a slight reduction in dimensions of the mass and the presence of grade II-III UHN. There were no arguments for the presence of infection (Treponema pallidum), malignancy or associated systemic autoimmune disease (systemic lupus erythematosus, rheumatoid arthritis, giant cell arteritis, IgG4-related disease) or organ specific autoimmune disease (autoimmune thyroiditis). The diagnosis of idiopathic retroperitoneal fibrosis was proposed taking into consideration the history, clinical presentation and paraclinical findings. As a result, the patient started treatment with methylprednisolone and clinical and imagistic improvement were seen. **CONCLUSION:** This case presents the diagnostic work-up, differential diagnosis, management and some possible complications of IRF, a rare fibro-inflammatory disease.

## 13. PLANNED SURGERY FOR PHEOCHROMOCYTOMA UNVEILS CANCER: A LAPAROSCOPIC REVELATION

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**BACKGROUND**: Pheochromocytoma is a rare, usually benign tumor that develops in the chromaffin cells of the adrenal glands, which are responsible for both the synthesis and release of cathecolamine hormones. This type of tumor may therefore lead to episodes of severe and fluctuating hypertension, most commonly associated with symptoms such as palpitations, excessive sweating, headaches, anxiety and tremor. In spite of these arguments, the further existence of other tumor masses in the adrenal gland is also asserted, which may pose the problem of a differential diagnosis with the previously referenced one. Within this framework, we refer both to those derived from adrenal cells, but also to other carcinomas that can metastasize to this region. **CASE PRESENTATION:** A 63-year-old male patient,known with a recently diagnosed right adrenal tumor mass, a potential pheochromocytoma, is admitted to the cardiology department for preinterventional medical treatment. Concerning the general physical examination, the patient exhibits generalized pallor, generalized tremor and a decreasing weight curve. Following additional imaging investigations, it was detected an inhomogeneous tumor mass with no demarcation from the right kidney and liver, compressing the inferior vena cava and the right renal vein. Subsequent to the treatment,the patient underwent surgery which became a diagnostic laparoscopy, thereby establishing a tumor invasion of the inferior vena cava and the right hepatic lobe,so a biopsy collection was performed. In the light of the histopathological results, it was determined a poorly differentiated CK7-positive carcinoma, which does not fit into the primitive adrenal tumors, and the starting point was to be sought. The patient was subsequently admitted to the internal medicine department and underwent a thoracic AngioCT, which revealed a voluminous tumoral mass located within the area of the right adrenal gland, with the invasion of the adjacent kidney. Moreover,a right paratracheal mediastinal lymphadenopathy was detected, leading to a superior vena cava syndrome. Finally, a palliative chemotherapy with carboplatin and symptomatic medication were followed. **CONCLUSION**: To conclude, the particularity of this case resides in the unexpected turn of the initial pheochromocytoma, to a primary pulmonary tumor, therefore illustrating the importance of thorough diagnostic evaluation.

## 14. FINDING THE BALANCE IN ONCOLOGY WHEN THROMBOEMBOLISM OCCURS - A CASE REPORT

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**BACKGROUND**: Thromboembolic events, particularly in cancer patients, are a significant concern due to their 30% mortality rate. The case of a patient with clear cell renal carcinoma who developed thromboembolic complications post-surgery underscores the critical need for adherence to contemporary guidelines and a tailored therapy. **CASE PRESENTATION:** In June 2023, a 52-year-old male, C.G., was admitted for intermittent moderate lumbar pain. His medical history included bilateral renal lithiasis, but no relevant intervention. Following an abdominal ultrasound, suspicion arose regarding a right renal tumor. CT (computed tomography) confirmed in July 2023 a right renal mass causing obstruction of the renal pelvis and ureter, along with an osteolytic lesion at the L2 vertebra. A biopsy confirmed the diagnosis of clear cell renal carcinoma, distinguishing it from papillary or chromophobe renal cell carcinoma. In August 2023, the patient underwent stereotactic body radiotherapy to the L2 vertebra, followed by a radical right nephrectomy for cytoreductive purposes in September 2024. Dissection was complicated by fixed adenopathic masses enveloping the inferior vena cava and the psoas muscle, leading to the operation's halt. On the first postoperative day, the patient presented with acute chest pain and marked dyspnea, hemodynamic instability, including tachycardia and hypotension. CT angiography confirmed a massive pulmonary embolism. The patient received thrombolytic therapy with Alteplase. He was administered unfractionated heparin. On the seventh day, he developed soreness in the left leg and physical examination revealed edema. Angio-CT identified deep vein thrombosis in the popliteal and gastrocnemius veins. The patient was switched to oral anticoagulation with Rivaroxaban, and was prescribed compression therapy. His condition stabilized. He was transferred to the urology ward, but the cardiovascular monitoring continued uneventfully. **CONCLUSION:** The 2023 European Society of Cardiology and European Society for Medical Oncology guidelines highlight the risk of bleeding when proceeding with thrombolytic therapy in cancer patients, especially those who are unstable or have undergone recent surgeries. Direct oral anticoagulants like Rivaroxaban are recommended for the treatment and prophylaxis of venous thromboembolism in cancer patients, as a safety profile regarding bleeding is required. However, thrombolysis can be a lifesaving intervention in particular cases. Optimal outcomes imply a personalized risk-benefit analysis.

## 15. AGAINST ALL ODDS: BILIARY STENTING IN KLATSKIN TUMOR WITH ASTOUNDING SURVIVAL

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**BACKGROUND**: First described in 1965, Klatskin tumor (KT) is a rare malignancy with an annual incidence of no more than 1:100,000, originating at the bifurcation of the common bile duct. These tumors emerge in a complex anatomical area, posing challenges for diagnosis and treatment. They are associated with a poor prognosis, with a median survival of 6 to 12 months in inoperable cases. **CASE PRESENTATION:** This case involves a 71-year-old male patient who first presented in 2017 with jaundice, dark urine, pale stools, and fever. His medical history includes atrial fibrillation, pulmonary hypertension, ischemic stroke, and right crural hemiparesis. A magnetic resonance cholangiopancreatography (MRCP) revealed a common bile duct stricture with tumoral extension to the left and right hepatic ducts, indicative of Bismuth IV hilar cholangiocarcinoma. Two plastic biliary stents were placed during an endoscopic retrograde cholangiopancreatography (ERCP) procedure. The patient's condition improved, and although an oncology consultation was strongly recommended, the patient did not attend and has not been followed up in an oncology center. To maintain normal bile flow, the plastic stents were periodically replaced in subsequent years during multiple ERCP procedures. Histopathological examination and brush cytology further supported the suspicion of hilar cholangiocarcinoma associated with the stricture initially detected on the first MRCP. His latest laboratory findings showed elevated C-reactive protein, along with indicators of cholestasis and hepatocytolysis. **CONCLUSION:** This case illustrates an extraordinary 7-year survival in a patient with KT, defying the typically poor prognosis associated with this malignancy. Despite sparse comprehensive studies analyzing factors influencing long-term survival, data has shown that advanced age, multiple comorbidities, hepatocytolysis and cholestasis, higher inflammatory markers, and Bismuth types III and IV are linked to a poorer prognosis. Moreover, ERCP with photodynamic therapy seems to enhance survival in patients with unresectable cholangiocarcinoma compared to ERCP alone. The median survival for patients treated by endoscopic stenting alone is as low as 8.5 months, with a 5-year survival rate of just 3%. Taking all of this into account, our case meets most of the negative prognostic factors yet greatly surpasses greatly the presumed life expectancy.

## 16. WHEN A HEALTHY BABY TURNS SEPTIC: A CASE OF NEONATAL ENDOCARDITIS

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**BACKGROUND**: Infective endocarditis is a highly uncommon occurrence in neonates with structurally normal hearts, and, though rare, poses a significant risk of morbidity and mortality. While the tricuspid, pulmonary and mitral valve have been recorded as lesion sites, the aortic valve is, most probably, the rarest of them all. **CASE PRESENTATION:** Here we present a three-week-old female patient, with complaints of persistent fever, paleness, food refusal and apathy. She was born at term, from a healthy mother and had an APGAR score of 10. Respiratory, urinary and gastrointestinal infections have been ruled out and hemocultures were collected. The ethology of the infection was established to be Streptococcus agalagtiae, a beta-hemolytic group B streptococcus. A transthoracic cardiac ultrasound was performed and aortic valve vegetations, sever aortic insufficiency and left ventricle dilation were evidentiated. Antibiotic therapy and inotropic support were administered, with a significant improvement in symptoms. When the patient was stable and the acute episode had passed, she was treated surgically and had a good recovery. **CONCLUSION:** Although scarce, infective endocarditis is a life-threatening condition and demands immediate attention. Once diagnosed, promptitude is key when it comes to the treatment in order to provide optimal care for the patient. Alongside antibiotic therapy, providing supportive care and considering surgery as an option are essential.

## 17. CHALLENGING DIAGNOSIS OF PERSISTENT FEVER IN PEDIATRIC PATIENTS: A CASE OF TUBERCULOSIS

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**BACKGROUND**: The World Health Organization states that tuberculosis is one of the top three infectious diseases contributing to global mortality. Pediatric patients under the age of two are at greater risk for complications due to their immune immaturity. **CASE PRESENTATION:** We report the case of a 1-year-old girl who presented with persistent fever and nasal congestion, and was treated at home with Cefuroxime after receiving Azithromycin for three days. Due to the severity of her symptoms, which included a 39.5°C fever, otalgia and emesis, she presented to the emergency department, where she was put on Ampicillin, Gentamicin and Ceftriaxone, in addition to symptomatic and rehydration therapy. She arrived at our clinic with symptoms of agitation, hyperemic pharynx, tonsillar hypertrophy, bilateral microadenopathy, dysphonia, dry cough, serous rhinorrhea and abnormal lung auscultation. Vaccination history indicated previous immunization in Germany. She tested negative for SARS-CoV-2, Influenza A and B, RSV, Adenovirus and Rotavirus. The urine test and coproculture were normal. Leukopenia with lymphocytosis, thrombocytosis, ESR of 55 mm/g, CRP of 23 mg/L were all observed in the laboratory. The new treatment included antibiotherapy with Clindamycin, Ceftriaxone and Amikacin, with an additional antimycotic (Fluconazole). Rubella, EBV and Toxoplasma tests returned negative and abdominal ultrasonography showed increased peristalsis and meteorism. The ENT consultation established the following diagnosis: Acute herpangina, febrile syndrome, pneumonia under observation with no acute otic foci. A chest X-ray was recommended, which revealed bilateral peribronchovascular infiltration and right intercleidohilar pulmonary consolidations. A cardiology consultation confirmed normal cardiac function. Based on the chest X-ray results and the patient's medical history, a pulmonologist raised the suspicion of tuberculosis, suggesting treatment with Cefuroxime 2x500 mg IV. IDR and Xpert MTB/RIF assays were then performed, and the results were positive. After that, the patient was referred to a pulmonary clinic for additional care. The discovery of the patient's grandfather having tuberculosis, suggesting that he is most likely the source of her infection. She is currently treated with Isoniazid, Pyrazinamide, Ethambutol, and Vitamin B6. **CONCLUSION:** This case emphasizes the need for a comprehensive assessment when pediatric patients present with ongoing symptoms. Effective management and better patient outcomes depend on prompt diagnosis and interdisciplinary teamwork.

## 18. PUTTING LIFE ON HOLD: A CASE OF MIXED ANXIETY-DEPRESSIVE DISORDER DURING ADOLESCENCE

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**BACKGROUND**: Mixed anxiety-depressive disorder (MADD) is a frequent psychiatric diagnosis among adolescents, epidemiological studies reporting prevalences as high as 10%. The disease burden of suicidal ideation and self-harm is amplified by functional impairments that can persist into adult life. In the case in question, MADD is coupled with familial antecedents of psychiatric illness and borderline personality disorder (BPD) traits, thus underscoring the importance of swift integrative interventions in the management of this condition.**CASE PRESENTATION:** 15-year-old patient P.E. presented for a psychiatry consultation in the context of multiple adaptive limitations that led to the interruption of her studies. Psychiatric family history revealed her father's suicide attempt 10 months prior to the patient's presentation. Heteroanamnesis highlighted good academic performance up to middle school, while the patient reported feelings of inadequacy associated with the influence of her strict, demanding maternal grandmother. Adolescence registered a worsening of symptoms that culminated in a 1 year hiatus from school on medical grounds, followed by a failed attempt to resume school. The patient accuses anxiety across multiple domains: agoraphobia, acrophobia, entomohobia, as well as affective instability, sleep disturbances, and fluctuating sexual orientation. In stressful situations, the patient describes episodes of derealization, suicidal ideation, and self-harm. The Multidimensional Anxiety Scale for Children placed the patient in the 98th percentile for anxiety. The Child Depression Inventory indicated the presence of severe depression without immediate suicidal risk. The Child Behaviour Checklist questionnaire revealed somatic complaints, severe anxiety, depression and thought problems. The current treatment regimen includes Lamotrigine, low-dose Quetiapine, Clomipramine, and Bromazepam daily over the past month. Notwithstanding the treatment, the patient's symptoms persist. **CONCLUSION:** This case emphasizes how intricately teenage emotional development and mixed anxiety-depressive disorders interact. Given the patient's unresponsiveness to treatment, multidisciplinary interventions entailing parental involvement and psychotherapeutic assistance are warranted. Modifying the pharmacological scheme could be considered, such as removing benzodiazepines and adding a neuroleptic (e.g. aripriprazole) to combat the possibility of long-term psychosis given the patient's risk factors. Finding the proper management approach is paramount to ensure social readjustment and culling of suicidal tendencies in pediatric MDD patients.

## 19. RUNNING OUT OF OPTIONS: RECURRENT CLOSTRIDIOIDES DIFFICILE INFECTION IN PATIENT WITH ULCERATIVE COLITIS

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**BACKGROUND**: Ulcerative colitis (UC) is an idiopathic, chronic immune-mediated disorder of the colonic mucosa associated with various complications, including Clostridioides difficile infection (CDI). The reccurence of CDI, usually in patients with compromised immune function, has a higher risk of poor evolution, toxic megacolon and bowel perforation being the most dangerous ones. **CASE PRESENTATION:** A 37 year-old female, previously diagnosed with Hashimoto's thyroiditis, presented at the gastroenterology department with diarrhea with sanguinolent stools (2-5 stools/day), cramping, abdominal pain and weight loss (8 kg). The symptoms have begun in June 2023, with diffuse abdominal pain and rectorrhagia. On physical examination, she had periorbital oedema and pallor. The blood tests revealed mild hypokalemia, elevated levels of C-reactive protein, hypoproteinemia, hyperuricemia and negative ANA and pANCA. Fecal calprotectin was highly elevated. A stool test detected Clostridioides difficile and orally Vancomycin was initiated. Rectosigmoidoscopy and histological exam confirmed a diagnosis of Mayo grade 3 UC. The patient had a good evolution and was discharged 10 days after. In the following year, however, she had five more CDI episodes, four of which were treated with Vancomycin and Metronidazole and the last one with Fidaxomicin. One month after she ended the treatment with Fidaxomicin, she presented another episode of CDI. As she was unresponsive to the Azathioprine treatment, Infliximab was associated after the third episode. As the presentation was so severe, fecal microbiota transplantation is being considered. **CONCLUSION:** CDI in patients with UC is a complication that can significantly alter the quality of life and have serious implications on the patient's general health. A symptomatology as severe is less common in UC patients, thus having an important prognostic on treatment response and prognosis.

## 20. A NEED FOR SPEED SOLUTION FOR A BRAKE-FREE CHALLENGE

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**BACKGROUND:** Melanomas are malignant, highly metastatic tumors, with an increasing incidence worldwide, affecting especially fair-skinned individuals. Immune checkpoint inhibitors, as part of immunotherapy, have been a key focus in the treatment of melanoma, due to their notable prolongation of overall survival, yet their administration can cause immune reactions against self-cells, leading to severe autoimmune diseases. **CASE PRESENTATION:** V. M. is a 67-year-old female patient with no history of cardiovascular diseases, presenting with a right scapular skin lesion, confirmed anatomopathologically as malignant melanoma. Imaging revealed multiple secondary pulmonary, hepatic, splenic and cutaneous lesions. Given the metastatic status and absence of BRAF mutation, the patient started combination anti–PD-1/anti–CTLA-4 therapy with Nivolumab and Ipilimumab as first line treatment. Owing to developing grade 2 liver and digestive toxicity after only 4 courses, the treatment was withheld until she had positively responded to steroids. 2 months later, the patient returns with compromised general condition, dyspnea, shivers, hypotension (65/30 mmHg), and increased heart rate (110 beats per minute). Normal levels of D-dimers excluded a likely immune-mediated pneumonia. CT-scan of thorax displayed pulmonary edema and cardiomegaly, leading to a cardiology exam from which relevant are the echocardiography results, revealing a LVEF of 15%, raising the suspicion of ICI-associated myocarditis. Because of the hemodynamic instability, heart biopsy to confirm could not be performed. The patient was transferred to an intensive care unit where despite high-doses of corticotherapy, and supportive treatment, she deceased. **CONCLUSION:** Cardiotoxicity in immunotherapy-treated patients, although it occurs infrequently, represents a significant global challenge for cancer control and public health as it shortens life drastically, therefore early multidisciplinary detection, management, and alternatives for possible adverse effects should be assessed promptly.

## 21. PSEUDOMYXOMA PERITONEI: A 'JELLY BELLY' WITH LETHAL CONSEQUENCES - A CASE REPORT

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**BACKGROUND**: Pseudomyxoma peritonei (PMP) is a very rare type of cancer characterized by the accumulation of gelatinous ascites with mucinous implants in the peritoneal cavity, colloquially referred to as "jelly belly". In other words, it is the peritoneal dissemination of mucus-producing neoplasm, most frequently from the appendix. Because of the nonspecific symptoms and the slow progression of the disease, it is often misdiagnosed or discovered incidentally during the investigation of other medical conditions, usually in a relatively advanced stage. Its atypical presentation, mimicking conditions such as irritable bowel syndrome, makes this clinical entity a big challenge for us, both in diagnosis and management, as will be seen in the case presented below. **CASE PRESENTATION:** A 50 year old male presented to the Emergency Room complaining of persistent abdominal pain, especially in the epigastric region, fatigue, anorexia, muscle weakness and a significant weight loss of 16 kg over two months. Physical examination revealed a distended abdomen, high sensitivity to palpation, palpable hard masses in the epigastrium, hypogastrium and right flank, as well as non-shifting flank dullness upon percussion. The patient had no relevant medical or family history. A contrast-enhanced computed tomography (CECT) scan of the chest, abdomen and pelvis showed mucinous deposits that caused a 'scalloping' effect on the surface of the right hepatic lobe; similar collections were found around the spleen, stomach, mesentery, greater omentum, paracolic gutters and pelvis. These are highly suggestive of PMP. In the hypogastrium, the CECT scan also showed multiple hyperechoic nodules infiltrating the mesenteric and omental adipose tissue, raising suspicion of peritoneal carcinomatosis. Cytological analysis of the ascitic fluid revealed large atypical cells with hyperchromatic nuclei and irregular nuclear membranes. A biopsy of a peritoneal lesion was requested. Tragically, the patient succumbed to his illness three days post-discharge. **CONCLUSION:** Given its resemblance to more benign gastrointestinal diseases and its low incidence rate, suspicion of PMP in patients with unexplained ascites, weight loss and abdominal masses is crucial. Finally, this case highlights the diagnostic challenges posed by pseudomyxoma peritonei, as well as the importance of early detection through imaging and histopathological techniques in order to improve prognosis in affected patients.

## 22. IDENTIFYING PATIENTS AT RISK FOR INTERSTITIAL LUNG DISEASE IN SYSTEMIC SCLERODERMA

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**BACKGROUND**: Systemic scleroderma (SSc) is a rare autoimmune connective tissue disease, characterized by vascular involvement and fibrosis that affects the skin and multiple internal organs. Interstitial lung disease (ILD) is the most common cause of death among patients with systemic sclerosis, with a prevalence of up to 30% and a 10-year mortality of up to 40%. **CASE PRESENTATION:** A 54-year-old man, former smoker, presented with a 2-years history of Raynaud phenomenon, athralgia, dysphagia and fatigue. Physical examination revealed induration of the skin affecting the fingers (sclerodactyly), limbs and trunk, pitting scars on multiple digital tips and fine inspiratory crackles ("velcro-type") at the lung bases. Immunological tests showed high titres of anti-Scl-70 antibodies and the patient was diagnosed with diffuse cutaneous systemic sclerosis (dcSSc). High-resolution computed tomography (HRCT) scan of the lungs showed reticular abnormalities and areas of ground glass opacities suggestive of SSc-associated ILD. Spirometry showed restrictive ventilatory dysfunction. In evolution the patient developed progressive shortness of breath on exertion, limiting the activities of daily living. HRCT reevaluation after 3 years showed progressive fibrosing ILD, with extension of reticular abnormalities and honeycombing lesions. During the course of the disease, the patient was treated with multiple immunosuppressive agents (methotrexate, mycophenolate mofetil, and cyclophosphamide), and later, an antifibrotic agent (nintedanib) was added. **CONCLUSION:** Early identification of patients at high risk for development and progression of ILD is essential in the management strategy of patients with SSc. Treating SSc-ILD is challenging, as high-risk or rapid progressors require an intensified treatment strategy, often involving a combination of immunosuppressive and antifibrotic agents.

## 23. A RARE CASE OF SIGMOID COLON DUPLICATION

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**BACKGROUND**: Gastrointestinal duplications are rare congenital anomalies that can occur anywhere along the digestive tract, often presenting as an abdominal mass in newborns. The standard treatment involves surgical resection, with careful preservation of the shared blood supply of surrounding tissues. However, sigmoid duplication is an especially rare finding in medical literature. In this report, we describe a case of sigmoid duplication and demonstrate how appropriate surgical management led to a successful outcome. **CASE PRESENTATION:** A 33-year-old female presented to Sultan Qaboos University Hospital with chronic constipation, nausea, and vomiting. Her appearance was normal, with no other medical condition or hereditary diseases. Despite being prescribed antiemetic and laxative medications at her local hospital and receiving recommendations for physical activity to enhance intestinal motility, her symptoms persisted. She was admitted to our hospital for further evaluation. Imaging investigations, including a magnetic resonance defecography, showed contraction of the puborectalis muscle, a medium-sized anterior rectocele, and moderate vaginocele formation. A computed tomography scan revealed a mass (20/9/7 cm) originating from the sigmoid colon and extending to the hepatic flexure, displaying an air-fluid level. The patient consented to exploratory laparoscopic intervention, with a presumptive diagnosis of diverticulum, volvulus, or sigmoid duplication under consideration. During the procedure, the mass was found adherent to the sigmoid colon, extending toward the right upper quadrant of the abdomen. The duplicated segment and the affected portion of the sigmoid colon were resected through a sigmoid colectomy, followed by a stapled end-to-end colo-colonic anastomosis. Histopathological examination confirmed the definitive diagnosis of sigmoid duplication without malignancy. The patient had an uneventful recovery and was discharged in good condition five days post-surgery. **CONCLUSION:** Duplications of the gastrointestinal structures are rare congenital anomalies which are often diagnosed in childhood, but may go unrecognised until adulthood. For adults presenting with symptoms like chronic constipation, intestinal duplications can be included in the differential diagnosis.

## 24. THE DYNAMICS OF BILATERAL RAPIDLY PROGRESSIVE OSTEOARTHRITIS OF THE HIP: A CASE REPORT

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**BACKGROUND**: Rapidly Progressive Osteoarthritis of the Hip (RPOH) is a condition characterized by rapid destruction of the femoral head, typically within a 12- to 18-month period, leading to severe loss of hip function. Bilateral RPOH is rare but has a significant clinical impact. **CASE PRESENTATION:** A 50-year-old male presented with bilateral severe hip pain, reduced hip joint mobility, and an antalgic posture. Symptoms began two years prior and became unmanageable with analgesics. The patient had no congenital pathologies or other comorbidities. A plain pelvic radiograph revealed severe osteoarthritis, grade II on the right side (partial femoral head flattening, joint space narrowing, and hip ascension) and grade III on the left side (complete destruction of the femoral head, significant hip ascension, and lack of anterior acetabular wall). Total hip replacement was recommended, starting with the right hip due to clinical priorities. One month later, a cementless total hip replacement was performed on the right side. Preoperatively, the patient Harris Hip Score (HHS) was 40.2 ± 5.1. At the six-month postoperative follow-up for the right hip, the HHS improved significantly to 85.3 ± 4.7. Radiographs showed good osseointegration (Engh score - 22), and the destruction on the left side had stabilized. A second non-cemented total hip replacement was performed on the left side, with optimal leg lengthening confirmed by both radiographs and clinical evaluation. Six months postoperatively, the HHS for the left hip improved from 38.6 ± 6.0 to 82.9 ± 5.4. **CONCLUSION:** This case underscores the severe functional decline associated with bilateral RPOH and highlights the benefits of timely total hip replacement. Postoperative improvements in HHS and mobility, along with pain relief, significantly enhanced quality of life. Early diagnosis and prompt intervention are essential to prevent further functional deterioration in RPOH cases, particularly with Zazgyva grade II and III involvement.

## 25. RIGHT UPPER QUADRANT SUBCUTANEOUS FISTULA FROM ACUTE CHOLECYSTITIS

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**BACKGROUND**: Gallstones represent a very frequent pathology. Acute cholecystitis is one of its most frequent complications, leading to surgery. Fistulae from the gallbladder to adjacent organs are very rare, one of the rarest being the cholecystocutaneous fistula. A systematic review from 2020 found less than 100 cases in the medical literature, encouraging us to present this case. **CASE PRESENTATION:** An 84-years-old male, non-smoker, without significant alcohol intake, treated for arterial hypertension and prostate hypertrophy, presented to the Emergency Ward for the appearance 2 days ago of a painful lump in the right upper quadrant (RUQ) and low grade fever. In the last 2 weeks he has been experiencing RUQ dull pain. The physical exam found an 8 cm soft lump, showing mild tenderness. The laboratory relevant findings were: leukocytosis, neutrophilia, elevated C reactive protein, liver cytolysis and cholestasis. The abdominal ultrasonography (US) showed a viscous, fluctuating fluid collection in the RUQ, communicating through the muscular abdominal layer in an amorphous collection situated between the liver and the hepatic flexure of the colon. The computed tomography (CT) set the diagnosis of perforated acute cholecystitis, contained between the liver and the hepatic flexure, fistulized in the subcutaneous fat through the muscles and fascia, but no gallstones were identified. After one week of antibiotic treatment the clinical status improved mildly, the biochemical liver tests improved, but the inflammation markers did not improve significantly. Surgical exam advised the operation. Median laparotomy exposed a sub-hepatic abscess from perforated cholecystitis, fistulized through the abdominal wall. Partial cholecystectomy could be done, the abscess was drained, and 2 gallstones measuring 1 cm each were found. The subcutaneous pouch was also drained through the fistulous orifice in the muscular layer. Postoperative evolution was uneventful, and the patient was discharged from the hospital. **CONCLUSION:** Cholecystocutaneous fistula is a complication of acute cholecystitis very rarely reported. The patient we presented came to medical attention before skin fistula could occur, leading to a particular clinical and imaging picture. Such cases require collaboration between medical, radiology and surgical teams.

## 26. UNCOMMON AND AGGRESSIVE GLIAL TUMOR: GLIOSARCOMA – A CASE REPORT

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**BACKGROUND**: Gliosarcoma is a rare and highly malignant variant of glioblastoma, accounting for only 2-8% of all these tumors. Because clinical presentation and radiological features are similar with those of a glioblastoma wild-type, there is a need for other markers to differentiate these two glial tumors. **CASE PRESENTATION:** A 73-year-old female presented with confusion syndrome, headaches and cognitive difficulties. Her medical history included grade 2 hypertension, class III obesity, and functional renal insufficiency. Computed tomography revealed a right frontal expansive intracranial lesion. MRI indicated a large mixed lesion in the frontal lobe affecting surrounding brain structures, raising suspicion of a glioblastoma, and incidental sinus and nasopharyngeal cysts. The patient underwent quasi-complete microscopic ablation of the tumor via right frontoparietal craniotomy with extradural drainage. The intraoperative examination suspicioned a glioblastoma. Microscopic exam identified a biphasic tumor, displaying areas of tumoral glial cells intermixed with areas of sarcomatous differentiation. Histochemical special stainings revealed PAS staining positivity in the cytoplasm of the tumor cells in the sarcomatous area. Also, silver impregnation staining highlighted a rich network of reticulin fibers in the sarcomatous areas, but no reticulin fibers in the glial tumoral areas. Immunohistochemistry showed differences between those two distinct patterns: GFAP+, vimentin-, Olig 2-, IDH1-, ATRX+, (in the astrocytic tumor area), and Vimentin+ and CD34+ (in the sarcomatous areas), with p53+ in 10% of the tumor cells and a high proliferation index (Ki67= 20%) throughout the tumor. The final pathological diagnosis was: diffuse adult-type glioma, gliosarcoma subtype, IDH1 wild-type, grade 4 of malignancy (the 2021 WHO CNS classification). Postoperatively, the patient remained conscious, cooperative, and afebrile; however, three days post-surgery, she developed external CSF leaks at the surgical site, necessitating a lumbar drainage that was removed after three days. The patient was discharged with recommendation for radiotherapy treatment. **CONCLUSION:** This case underscores the diagnostic challenges and complexities of managing a cerebral gliosarcoma, emphasizing the importance of multidisciplinary approaches in treatment and monitoring for complications. An accurate diagnosis needs histochemical and immunohistochemical stainings that identify the glial component (GFAP+, silver impregnation-) and sarcomatous component (CD34, silver impregnation+), thus differentiating it from other glial tumors.

## 27. SURGICAL TREATMENT FOR GALLBLADDER CANCER: A CASE REPORT

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**BACKGROUND**: Gallbladder cancer is a rare type of malignant neoplasm, accounting for 1.2% of all global cancer diagnoses and 1.7% of all cancer-related deaths. Signs and symptoms often appear only in the advanced stages and include nausea, vomiting, bloating, pain above the stomach and jaundice, all common symptoms in other gallbladder-related diseases and various other disorders affecting the digestive system. Therefore, gallbladder cancer is difficult to detect and diagnose early. **CASE PRESENTATION:** We present the case of a 57-year-old male patient diagnosed with gallbladder cancer. Other comorbidities include arterial hypertension, hypertensive cardiomyopathy, grade D reflux esophagitis and a large hiatal hernia. Multiple imaging tests, including an abdominal and pelvic CT scan and ultrasonography, were performed. The results showed the lack of delimitation of the tumor mass from the duodenal wall, the expansion of the tumor into the adjacent liver parenchyma and invasion of the bile duct, with the narrowing of the lumen. Celiac and paraduodenal adenopathies were also discovered. Summarizing the diagnosis, the patient suffers from a gallbladder tumor in the infundibulo-cystic region with invasion into the duodenum, liver and the main bile duct. Since the tumor was resectable, a complex six-hour-long surgery was performed. The procedure included an exploratory laparotomy, resection of the gallbladder and segments V and IVb of the liver en-bloc, and a suprapapillary antro-duodenal resection. Several anastomoses were performed, including a Roux-en-Y hepaticojejunostomy, a transmesocolic gastrojejunal anastomosis and a enteroenterostomy. Retrovesical, subhepatic, paraduodenal and subcutaneous drainage were required. Thanks to the favorable evolution of the patient, after 2 days in the Intensive Care Unit, he was transferred to the surgical unit. Unfortunately, on the seventh postoperative day the patient suffered a hemorrhagic shock of the superior arcade of the head of the pancreas. He survived this complication and he required a surgical reintervention which was successful. **CONCLUSION:** The peculiarity of this case is that the tumor was resectable, a very rare situation, and that the patient survived a postoperative hemorrhagic shock. It is also worth mentioning that, although gallbladder cancer is the only type of digestive cancer that occurs more frequently in females than males, our patient is a man.

## 28. UNPREDICTED EMERGENCY SURGERY AFTER IN VITRO FERTILIZATION – CASE REPORT AND LITERATURE REVIEW

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**BACKGROUND**: In vitro fertilization (IVF) has emerged as the most effective treatment for infertility, but despite its increasing popularity and widespread availability, it is not without complications. Associated risks, such as ovarian hyperstimulation syndrome, multiple gestations and preterm birth, have gained considerable attention due to their negative impact on maternal and fetal outcomes. **CASE PRESENTATION:** We present the case of a 33-year-old female with secondary infertility and a history of bilateral tubal occlusion, diagnosed by laparoscopy. The patient underwent IVF with controlled ovarian stimulation, followed by a single in utero fresh embryo transfer (ET). Fourteen days post-ET, a urinary pregnancy test was positive. Three weeks after ET, the patient reported vaginal bleeding and abdominal pain. Clinical evaluation and transvaginal ultrasonography raised suspicion of a miscarriage. The decision was close monitoring until a complete spontaneous abortion. After three days more, the patient developed severe abdominal pain and lipothymia, prompting her admission to the emergency department with a diagnosis of hemoperitoneum by ultrasound. Laparoscopy revealed an ectopic pregnancy located in the left fallopian tube, necessitating a total left salpingectomy. Prophylactic right salpingectomy was also performed. The patient subsequently recovered well postoperatively. **CONCLUSION:** According to the medical literature, ectopic pregnancy after IVF occurs in 2-5% of pregnancies, being much more frequent after fresh compared to frozen embryo transfer. EP is a life-threatening condition and remains a leading cause of maternal mortality in the first trimester, accounting for 5-10% of all maternal deaths worldwide, in both developed and developing countries. Although IVF involves direct embryo transfer into the uterine cavity, bypassing the fallopian tubes, ectopic pregnancies still occur after IVF, probably because of a migrated embryo. Transvaginal ultrasound is not the most reliable diagnostic tool by itself to locate an early pregnancy and should always be combined with serum human chorionic gonadotropin measurements. Despite its rarity, ectopic pregnancy must always be considered as a potential complication due to the risk of tubal rupture, which can lead to significant internal hemorrhage and serious morbidity.

## 29. CHEMOTHERAPY-RELATED COMPLICATIONS: MANAGING BOTRYOMYCOSIS IN ONCOLOGY

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**BACKGROUND**: Chemotherapy is an important treatment in oncology but can lead to a wide range of mild to severe side effects on the body, including myelosuppression. It compromises the immune system and can provide mucocutaneous reactions related to chemotherapeutic agents. One potential complication of chemotherapy is the development of infections, including botryomycosis, a rare fungal infection that affects skin structures and can cause necrosis and ulceration. Botryomycosis is caused by bacteria with Staphylococcus aureus usually the major causal agent, 40% and Pseudomonas aeruginosa ranking second in frequency, 20%. **CASE PRESENTATION:** We present the case of a 79-year-old female who was admitted to the department of plastic and reconstructive surgery following a dermatological consultation, presenting multiple paronychia complicated with botryomycosis. She had a known history of bronchopulmonary cancer diagnosed in 2020, for which chemotherapy has been initiated in 2021. Clinical examination revealed the presence of paronychia on digits 2, 3, and 4 of both the left and right hands, as well as on digits 1 and 3 of the left foot and digits 1, 2, and 3 of the right foot. Excision and debridement of the lesions on each digit were performed, and samples were sent for examination. Culture from lesions revealed growth of Staphylococcus aureus and Pseudomonas aeruginosa, prompting the initiation of antibiotic therapy with Ciprofloxacin. Currently, the patient exhibits ulcerative lesions in the subpectoral and periumbilical regions. A positive aspect of this case is that the tumor remains stable following chemotherapy. **CONCLUSION:** This case illustrates the impact of chemotherapy on the health of appendages and emphasizes the importance of careful monitoring of oncological patients to manage associated complications. Surgical interventions and antibiotic therapy are essential to prevent further deterioration of the health status of patients with compromised immune systems. However, chemotherapy also has beneficial effects, as in our patient's instance, the tumor remains stable.

## 30. HUNTER PROCEDURE: A WACKY JOURNEY THROUGH TENDON REPAIR AND OTHER SKIN SURPRISES!

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**BACKGROUND**: Silicone tendon implants are utilized as the main materials in the first part of the Hunter's two-stage procedure for reconstructing flexor and extensor tendons in patients with severe hand tendon injuries. **CASE PRESENTATION:** We present the case of a 44-year-old woman admitted to the Plastic Surgery Department in Târgu Mureș with a 30-year-old injury affecting the deep and superficial digital flexor tendons (DDFT & SDFT) of the second finger on her left hand. Notably, this patient, a pianist by profession, compensated for limited flexion in the second finger by utilizing the flexor tendon of the third finger. Surgery began with a Z-shaped incision to create local flaps, followed by identifying cicatricial blocks at the metacarpophalangeal (MCP) and proximal interphalangeal joints (PIP). Proximal tendon stumps were located at the PIP and mediopalmar levels. These stumps were excised and the tendon ends were prepared by shortening the proximal SDFT stump by 2 cm. A synthetic tendon prosthesis was then placed from the base of the third phalanx to the middle palmar region (stage I), and the A1 pulley was reconstructed using the SDFT. During the second stage, despite no preoperative signs of inflammation or infection, granulomatous tissue was found around the prosthesis and the hypertrophied periprosthetic capsule, indicating a foreign body reaction, those were removed and sent for histopathological examination. An incision on the volar forearm at the distal third allowed for harvesting a tendon graft from the SDFT of the second finger, which was used to reconstruct the DDFT of the same finger. The DDFT graft was reattached with transosseous sutures at the base of the second finger, completing the reconstruction of the A1, A2, and A4 pulleys. The patient subsequently developed sarcoidosis and psoriasis, underscoring potential immune complication. **CONCLUSION:** The Hunter tendon repair remains a valuable technique for tendon reconstruction, offering a structured, two stage approach. However, this case underscores the risk of immune complications and highlights the need of vigilance and careful patient monitoring in post-operative recovery.

## 31. DEEP INFILTRATING ENDOMETRIOSIS: A RARE CAUSE OF INTESTINAL OBSTRUCTION

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**BACKGROUND**: Endometriosis is a benign condition that frequently occurs during the reproductive period, defined by the presence of endometrial tissue outside the uterus. Endometriosis can be found anywhere in the peritoneal cavity, structures located further away in the peritoneal cavity, such as the cecum and the ileocecal valve being less commonly affected. Deeply infiltrative endometriosis associated with large intestine obstruction is rare and can be mistaken for intestinal adenocarcinoma. **CASE PRESENTATION:** A 35-year-old female, nulliparous, with no known medical history, presented to the emergency department with diffuse abdominal pain, nausea, vomiting, and absence of intestinal transit. Physical examination revealed distended abdomen, without scars or abdominal wall hernias, a negative Blumberg sign, and present bowel sounds on auscultation. FAST ultrasonography detected distension of the intestinal loops on the left abdominal flank. This finding was confirmed by an abdominal radiography, followed by an abdominopelvic CT scan to establish the etiology. During the exploratory laparotomy, a tumor mass involving the cecum, ileocecal valve, and the right adnexa was identified. The formation was interpreted as malignant, leading to a right hemicolectomy and right adnexectomy. Histopathological examination revealed an extensive area of endometriosis and fibrosis in the resected specimen. **CONCLUSION:** Endometriosis is not a malignant pathology, but can easily be mistaken for one. The patient's age can be a differential diagnostic element, as colorectal cancer predominantly affects older patients. A second element is the direction of invasion in the intestinal wall, with endometriosis invading from the outside in, unlike primary malignant processes. Additionally, a clinical history of hematochezia is uncommon in cases of endometriosis. The diagnosis of large bowel endometriosis remains challenging to establish preoperatively. Despite imaging advancements, laparoscopy combined with lesion excision and histological examination remains the gold standard for a definitive diagnosis of endometriosis.

## Powerpoint Session
## ORIGINAL STUDIES

### 01. MATRIX METALLOPROTEINASES: NONPROTEOLYTIC ACTIVATION AND ITS RELEVANCE IN MEDICINE

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**INTRODUCTION**: Matrix metalloproteinases (MMPs) are a family of zinc-dependent extracellular matrix (ECM) remodeling endopeptidases which have the function to degrade almost every component of the ECM. The aim of the research is to investigate the role of 3 molecules associated with nitro-oxidative stress, such as nitrite, peroxide and peroxynitrite, in the activation mechanism of metalloproteinases 2 and 9 respectively. MMPs exist in the inactive form of pro-enzymes and in the activated form, through the proteolytic or nonproteolytic pathway. Literature data, but also previous data obtained by us, suggested the key role of reactive nitrogen species in the nonproteolytic activation of MMPs. **MATERIALS AND METHODS**: In order to investigate the modulatory action on MMPs of the above-mentioned molecules, the zymographic method was used to highlight the catalytic activity of MMP2 and MMP9 in the absence and presence of nitrite, peroxide and peroxynitrite respectively. In parallel with the zymographic analysis, an electrophoretic migration staining with Comassie Brilliant Blue was performed. Data were integrated using Image J software and electrophoregrams were compared, with significant differences set at a p value of < 0.05. **RESULTS**: Examination of the zymography showed that in the presence of nitrite there was a complete activation of MMP2 while peroxide or peroxynitrite did not lead to this result. Normally, we would expect peroxynitrite to be the most potent activator of MMP2 but it is possible that the concentrations of the nitro-oxidative stress promoting molecules were either too high or too low, so that its rapid generation equaled its degradation. Thus, the stabilisation of vascular-induced nitric oxide (NO) as nitrite led to the total activation of MMP2. **CONCLUSION**: The results lead us to the conclusion that the reactive nitrogen species (RNS), as well as reactive oxygen species (ROS) play a key role in the nonproteolytic activation of MMP2. Based on these findings, in a clinical contex, vasodilator therapy with nitrates, nitrosative stress generated in various toxicoses (e.g. hydrazines, NSAIDs), the evolution of atherosclerosis, hemolytic anemia syndromes when free Hb reacts with NO and generates reactive species of N are future zones of interest. Acknowledgement: Part of the current research was sustained through the AOSR-TEAMS 2024/2025 research grant, domain: Medical Sciences.

### 02. MORPHOMETRIC AND QUANTITATIVE CHANGES OF BRONCHOASSOCIATED LYMPHOID TISSUE UNDER THE INFLUENCE OF SODIUM GLUTAMATE, SODIUM NITRATE AND PONCEAU 4R

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**INTRODUCTION**: It is known that nowadays the using of food additives causes many contradictions due to the lack of thorough research on their effects on the body, especially in conditions of combined action. Currently, the most common food additives are Sodium glutamate, Sodium nitrate and Ponceau 4R. It is especially important to study their harmful effect on the broncho-associated lymphoid tissue (BALT), as it protects the body from various antigens. **MATERIALS AND METHODS**: 30 white outbred male rats were used. Control group (10 animals) used ordinary drinking water. Experimental group (20 animals) received daily Sodium glutamate, Sodium nitrate and Ponceau 4R in doses allowed in food industry. Animals were removed from the experiment on the 1st and 4th weeks. Fragments lungs were sealed in Epon-812. Semi-thin sections were stained with methylene blue. The external diameter and thickness of the broncho-associated lymphoid capsule were measured tissue, number of plasma cells, number of macrophages, the number of lymphocytes and the number of reticulocytes. Statistical data processing was carried out in Excel program. **RESULTS:**
When conducting a morphometric study of the structural components of the lungs, it was established that in the control group the external diameter of the BALT was 392.15±2.64 μm, the thickness of the capsule was 28.65±1.52, the number of macrophages was 121±4.62, and the number of lymphocytes was 249.53 ±8.33, the number of plasma cells 180.7±6.79, the number of reticulocytes 29.00±0.11. After 1 week of the experiment, the outer diameter significantly increased by 73.55%. The average thickness of the capsule became smaller by 14.31% ($p<0.05$). The number of macrophages was higher by 2.11% ($p<0.05$). The number of lymphocytes significantly increased by 56.11% compared to its values in the control group ($p<0.05$). The average number of plasma cells significantly increased by 78.08% ($p<0.05$). The number of reticulocytes was lower by 28.26% ($p<0.05$). After 4 weeks, the external diameter of the broncho-associated lymphoid tissue decreased by 30.30%, relative to the previous period of the experiment, and was greater by 20.96% relative to the values of the control group ($p<0.05$). The thickness of the capsule decreased according to the resultsof the previous term by 5.99%, which was 19.44% less than the indicators of the control group ($p<0.05$). The number of macrophages was 10.56% higher than the results of the previous term, which was 12.89% higher than the control group ($p<0.05$). The number of lymphocytes decreased by 24.07% compared to the previous period and was 62.52% less than the value in the control group ($p<0.05$). The number of plasma cells was 0.31% more than in the 1st week of the study and in 78.63% significantly increased over the indicators in the control group of rats ($p<0.05$). The number of reticulocytes increased from the results of the previous term by 65.34%, which was 18.59% more than the indicators of the control group ($p<0.05$).**CONCLUSION**: The average size of lymphoid follicles gradually increased as a result of exposure to the complex of food additives, but the thickness of the capsule decreased during observation. During the first week of the experiment, the number of plasma cells almost doubled and remained stable for 4 weeks. The average number of macrophages was not significantly different from the indicators of the control group. As a result of the stimulation of

the humoral link of immunity, the activation and differentiation of lymphocytes into plasma cells took place, as a result of which the number decreased.

03. **THE NEURAL FINGERPRINT OF LETTERS: DECODING LETTERS AND FONTS FROM EEG SIGNALS**

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**INTRODUCTION**: Letter recognition represents the most elementary functional unit of reading, constituting a fundamental building block for comprehending the written world. While several theoretical models have been proposed to elucidate the precise chronological sequence of reading, our understanding of the electrophysiological cues underlying this process remains limited. Do the cortical representations of different letters exhibit distinctive properties? Does a change in any letter property influence the cortically evoked responses? Can the quality of a letter be predicted by examining brain waves alone? **MATERIALS AND METHODS**: A 64-channel (EEG) was conducted on 26 university students (21 female, mean age: 21.8 ± 1.8). During the recording, subjects observed images of different letters (40 individual stimuli, each presented 40 times) while maintaining attention on a detection task. EEG data (individually elicited responses) were grouped according to different stimulus qualities and separated using a machine learning algorithm. The efficacy of this separation was tested over time using cluster-based statistics (10,000 permutations). **RESULTS**: The results demonstrated that the letter identity (a, e, f, g), letter size (lowercase, uppercase) and font (five visually distinct fonts) were significantly distinct in the typical periods of the response elicited by the letter appearance. Furthermore, the discrimination of letter identity was successfully achieved when the decoding algorithm was trained on lowercase data exclusively, with the correctness of the results then verified using uppercase data (and vice versa). **CONCLUSION:** The cortical representation of letter identity starts surprisingly early, at the same time as the first visual evoked response component (~100 ms). A similar pattern of cross-validated analysis on lower and upper case letters supports the abstract nature of the representation, as the visual appearance of our lower and upper case letters differed greatly. Furthermore, our surprising result is that the distinctness of the letters, which differ in their basic visual properties, does not start to emerge until later (~150 ms).

04. **THE INCIDENCE AND VARIABILITY OF THE PERSISTENT METOPIC SUTURE IN A POPULATION OF CRANIA FROM THE INTER-WAR POPULATION**

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**INTRODUCTION**: The metopic suture represents a physiological fibrous joint present at birth, which stretches from the nasion to the bregma. It is also called interfrontal or median frontal suture and may appear incomplete on some crania. This study's objective is to research the suture's occurrence in adults and certain associated implications. Normally, its fusion starts at about 3 months of age, with its completion at around 9 months of age. Its variability and presence implicate numerous possible consequences. **MATERIALS AND METHODS**: The study was conducted in the Department of Anatomy of "Carol Davila" University of Medicine and Pharmacy on 300 subjects pertaining to the "Francisc Rainer" crania collection. An initial external analysis was conducted, in order to evaluate the closure status, morphology and structure of the suture. Afterwards, cranial computed tomographies (CT) were performed, completed by high precision equipment, Canon Aquilion One 64 Slice, also enabling us to assess 3D reconstructions, which uncover potential abnormalities caused by the persistence of the suture, or even the premature fusion of the component bony structures. **RESULTS**: We detected 17 crania with persistent metopic suture. The persistence of the metopic suture is often associated with different conditions, such as: abnormalities and unilateral or bilateral agenesis of the frontal sinus, thus creating difficulties or possible confusion in the evaluation of the concerning structures or even possible complications. **CONCLUSION**: A present metopic suture during the adult life can also be mistaken on a scan for a vertical fracture of the cranium, therefore having implications in radiology. Moreover, it can lead to the formation of wormian bones within the calvaria. On the other hand, the premature fusion of it, termed metopic synostosis, often leads to trigonocephaly. Persistent metopic suture is a rare condition. However further research concerning the subject can result in a more profound understanding of the surrounding causes and conditions favorable to metopic variability, therefore enhancing diagnostic accuracy and patient outcomes regarding craniofacial abnormalities.

**Author-submitted correction:**
In the results section, the updated information is that we found a total of 42 crania with persistent metopic sutures out of a total of 470 examined subjects.

05. **BRAIN GLYCOSYLATION AND PARKINSON'S DISEASE DEVELOPMENT - MECHANISMS AND PROSPECTS**

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**INTRODUCTION**: The growing incidence of both Parkinson's disease (PD) and cardiometabolic diseases, especially type 2 diabetes, is undeniable. Moreover, there is a correlation of 40% between the two conditions. We estimate a key role of dopamine in the glycosylation processes in the etiopathology of PD. The experimental model was achieved by MPTP-induced dopaminergic lesion. **MATERIALS AND METHODS**: The experimental part was carried out with CD21 mice randomly divided (n = 13) into MPTP and Control groups. MPTP was administered at 25 mg/kg b.w. sequential (1 dose each 2 days) and daily for 7 days for all MPTP mice. The whole brain was dissected out and cortical and striatal areas were prepared first of all for immunohistochemical assay for α-synuclein and GFAP, whereas tissue homogenates were subjected to ELISA α-synuclein and dopamine (DA) assay, gel electrophoresis in both native and denaturing systems, treated with periodic acid-Schiff reagents and silver stain protocol, and finally untargeted metabolomic analysis. Experimental data was also evaluated for the correlation coefficients and PCA using the PAST software. **RESULTS**: This research shows that the protein-free carbohydrate level significantly decreases in the MPTP-treated cortical homogenate when compared to control, as seen on the Schiff stain. As for the striatum homogenates, the slight increase of protein-free carbohydrates in MPTP when compared to control is backed up by the metabolomic studies, which show increasing levels of free carbohydrates in MPTP-treated striatal homogenates when compared to control. The semi-quantitative analysis of glycoproteins, provided by the silver stain, highlights at 15-20 kDa a weaker signal in the MPTP striatal homogenate as opposed to control in the native gel electrophoresis. However, the opposite occurs in SDS-PAGE, as the signal increases in the MPTP striatal homogenate when compared to control. **CONCLUSION**: The results lead us to the conclusion that the PD pathology involves most probably a tetrameric or a pentameric glycoproteic complex, of which the glycosylation is deprived (either slowed down or prevented). SDS-PAGE and metabolomic studies highlight the role of fundamental metabolic pathways of carbohydrates, such as protein glycosylation and protein-free carbohydrates. In the light of these findings, PD has also a significant impact on the cortex, which is less expected than the one on the striatum, a conclusion which suggests that further studies need to be implemented.

**Author-submitted corrections:**
As for the striatum homogenates, the slight increase of carbohydrate-associated proteins in MPTP when compared to control is backed up by the metabolomic studies, which show increasing levels of glucogenic aminoacids in MPTP-treated striatal homogenates when compared to control.

**Acknowledgement**: This research received support from a GTC grant awarded by Babes-Bolyai University (Grant No. 32939/22.06.2023) and AOSR-TEAMS-III 2024-2025 grant.

06. **COMPREHENSIVE MORPHOMETRIC ANALYSIS AND 3D MODELING OF TRIANGULAR RECESS**

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**INTRODUCTION**: The triangular recess is a small anatomical indentation in the anterior wall of the third ventricle, situated between the fornix columns and the anterior commissure. This debated feature serves as a neuroanatomical reference point and is associated with cerebrospinal fluid pathways, raising questions about its existence and structure. Its identification is crucial in endoscopic neurosurgery for navigating ventricular procedures. This study aims to confirm the existence of the triangular recess and provides a detailed morphometric analysis, contributing a novel 3D anatomical model. **MATERIALS AND METHODS:** This study presents a quantitative and qualitative analysis of the triangular fossa through the dissection of 100 adult brains without neurological abnormalities. The brains, preserved in 10% formaldehyde for at least 10 weeks, were dissected in two stages: first, the roof of the third ventricle was exposed to observe the thalamic nuclei and nearby structures, followed by the removal of part of the thalamic nuclei to reveal the triangular fossa. Morphological characteristics and dimensions of the triangular recess were documented, and Heron's formula was used to calculate its communication area with the third ventricle. High-resolution images were captured using a Nikon D7000 camera and processed with Adobe Photoshop CS5 and Capture NX2. Statistical analysis, including Pearson correlation and Paired Samples T-test, was conducted to explore relationships between key variables. This approach provides insights into the anatomical and functional features of the triangular fossa. **RESULTS:** The triangular recess was identified as having a complex morphological organization, consisting of a deep and superficial component. The deep part displays a quadrangular pyramidal configuration, bounded by the fornix and anterior commissure. Key morphometric data, including the ventricular aperture, which averaged 271.43 $mm^2$, revealed a strong positive correlation with the posterior wall ($r=+0.697$, $p=0.001$). The superficial component, defined by a vestibular structure, demonstrated statistical consistency across measurements. Significant differences were noted between the areas of the deep section (34.07 $mm^2$) and the ventricular aperture (271.43 $mm^2$, $p=0.001$). **CONCLUSION:** The study confirms the presence and intricate morphology of the triangular recess, offering a reliable anatomical model for ventricular endoscopy. These findings open new perspectives for improving neurosurgical approaches and understanding ventricular anatomy in clinical practice.

## 07. INVESTIGATION OF CRYPTOGENIC STROKE AMONG PATENT FORAMEN OVALE PATIENTS AT SULTAN QABOOS UNIVERSITY HOSPITAL: A CASE-CONTROL STUDY

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**INTRODUCTION**: Cryptogenic stroke, where no clear embolic source is identified, poses a significant challenge in clinical practice. Patent Foramen Ovale (PFO), a small opening between the atriums, is found in cases of Cryptogenic stroke. Many theories have arisen to explain the stroke risk associated with PFO, focusing on larger PFOs as carrying the highest risk. However, this belief may not fully capture the complexities of PFO-related strokes. This study set out to uncover the influence of PFO on stroke risk and how demographic and clinical factors shape these associatiations. **MATERIALS AND METHODS:** This study analyzed 91 patients with diagnosed PFOs, including 38 individuals with confirmed cryptogenic stroke and 53 controls without stroke. We examined the relationships between stroke occurrence and various factors, such as age, gender, PFO Characteristics, hypertension, and hemoglobin levels. Brain CT scans were employed to identify stroke types and the affected vessels, while treatment modalities' effectiveness in preventing stroke recurrence was also assessed. Statistical analyses, including Chi-square tests, Independent sample T-tests, and McNemar tests, helped us delve into the associations and gauge the strength of each factor's contribution to stroke risk. **RESULTS:** Contrary to traditional expectations, smaller PFOs were significantly associated with an increased risk of stroke. challenging the conventional belief that larger PFOs pose a greater risk. No significant correlations were found between stroke risk and well-established risk factors such as age, gender, hypertension, or hemoglobin levels. CT findings primarily revealed ischemic strokes involving mainly the middle cerebral artery. Importantly, current treatment protocols showed significant success in reducing stroke recurrence, showcasing their critical role in managing PFO-related strokes. **CONCLUSION:** This study challenges the traditional view that larger PFOs carry the greatest stroke risk, revealing that smaller PFOs might pose a greater threat than previously thought. The lack of a significant association between typical risk factors like hypertension and hemoglobin levels suggests that PFO-related strokes may follow a different pathophysiology than other ischemic strokes. These findings underscore the need for rapid diagnosis and proactive management of PFOs to prevent stroke recurrence. Further research is essential to confirm these results and fine-tune treatment strategies, potentially reshaping how we approach cryptogenic strokes in clinical practice.

## 08. ANALYSIS OF SEVERE COVID-19 CASES IN THE UKRAINIAN POPULATION IN 2020-2022

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**INTRODUCTION**: It has been 4 years since the SARS-Cov-2 virus was discovered in late 2019, but it is still actively spreading around the world and remains relevant. Constant mutations of the coronavirus cause periodic increases in the incidence in different parts of the world, accompanied by an increase in the number of severe cases and hospitalizations in intensive care units (ICU). **MATERIALS AND METHODS:** his retrospective study analyzed data from 552 patients diagnosed with COVID-19 who had severe disease and were admitted to the ICU of the Poltava Regional Clinical Infectious Diseases Hospital, Poltava, Ukraine, from 2020 to 2022. Patient survival rates were analyzed based on the Meyer-Kaplan survival curve, and predictors of lethal outcome were identified. **RESULTS:** In the period from April 2020 to September 2022, out of 552 hospitalized patients with severe disease, 174 (31.5%) were discharged from the hospital, and 378 (68.5%) had lethal outcomes. Among patients who died, the gender distribution was approximately the same: 55.3% women and 44.7% men (p = 0.390). The vast majority of the deceased were over 60 years of age - 78.8% (p = 0.000). In the group of patients who had a lethal outcome, when assessing the overall Kaplan-Meier survival function, the probability of survival was 99.6% on day 1, 67% on day 10, 42% on day 20 and 21% on day 30 after hospitalisation. By applying the long-rank test, differences in the survival functions were observed in the variables: age over 60 (p = 0,000), need for invasive artificial lung ventilation (p = 0,000), concomitant cardiovascular disease (p = 0,000), nervous system disease (p = 0,012), and leukocytosis at hospitalization (p = 0,001). **CONCLUSION:** In the period 2020-2022, a high level of lethal outcomes was recorded in hospitalized patients with severe COVID-19, regardless of the SARS-CoV-2 virus variant. The main predictors of probable lethal outcome in patients with severe COVID-19 were age over 60, the need for invasive ventilation, concomitant cardiovascular disease, nervous system disease, and leukocytosis at hospitalization.

09. **MEANS FOR PREDECTING MORTALITY IN SEVERE, BACTERIAL SUPRAINFECTED INFLUENZA CASES**

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**INTRODUCTION**: Severe influenza cases are frequently aggravated by bacterial superinfections, increasing inflammation and lung damage, resulting in a cumulative risk of acute respiratory distress syndrome (ARDS), sepsis and other life-threatening conditions. An early evaluation of these patients' mortality risk can offer insights for tailored, timely interventions, in order to diminish these risks. **MATERIALS AND METHODS:** This study included 74 patients admitted for severe Influenza infections between September 2022 and April 2024 into a County's Hospital Infectious Diseases Clinics. Inclusion criteria were oxygen saturations (SaO2) <90%, oxygen therapy requirement, the confirmation of Influenza A/B infection via antigenic/ RT-PCR test. We excluded those parents who were lost from follow-up before resolution (extraterritorial transfer/on-demand discharge/SARS-CoV2 coinfection) and those without bacterial suprainfections. We aimed to determine the mortality prediction accuracy of various markers, including fibrinogen, C-reactive protein (CRP), neutrophil-to-lymphocyte ratio (NLR), at admission (T1) ,between day 3 and day 7 (T2) and within the second week of admission (T3) via ROC analysis. **RESULTS**: After applying the inclusion/exclusion criteria, a total of 55 patients remained in the study, of which 10 (18.18%) succumbed to complications. The ROC analysis has demonstrated a very high mortality prediction accuracy for NLR after day 3 (T1 AUC: 0,681, p=0,78; T2 AUC: 0,892, p<0,001; T3 AUC: 0,966, p<0,001), a moderate and late prediction for CRP (T1 AUC: 0,631, p=0,22; T2 AUC: 0,690, p=0,10; T3 AUC: 0,776, p=0,032) but failed to establish a connection between fibrinogen levels (T1 AUC: 0,471, p=0,78; T2 AUC: 0,692, p=0,10; T3 AUC: 0,766, p=0,063) and mortality.**CONCLUSION:** The neutrophil-to-lymphocyte ratio (NLR) proved to be a strong predictor of mortality in severe, bacterial suprainfected influenza cases, especially from day 3 onward. C-reactive protein (CRP) showed moderate and late predictive value, while fibrinogen was not a reliable indicator. NLR may be useful for early risk assessment and guiding timely interventions in these high-risk patients.

10. **IMAGISTIC EVALUATION OF VENTRICULAR FUNCTIONS FOLLOWING A VIRAL MYOCARDITIS**

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**INTRODUCTION**: A significant number of patients who have been previously infected with SARS-COV-2 and undergo cardiac magnetic resonance (CMR) examinations, present with viral myocarditis. Although CMR is well-established in detecting viral myocarditis, the specific CMR features linked to concerning alterations in ventricular function among post-COVID patients have not been clearly identified. The objective of this study was to assess the role of myocardial edema (ME) on CMR investigations in predicting the deterioration of ventricular function in patients suffering from viral myocarditis. **MATERIALS AND METHODS:** A total of 55 patients with positive CMR investigations for viral myocarditis post-COVID-19 infection were included in the study. The evaluation of myocardial tissue was conducted using delayed gadolinium enhancement phase-sensitive inversion recovery sequences, with inversion recovery images indicating high signal intensity considered suggestive of edematous changes. Participants were categorized into two groups based on the presence of myocardial edema at the time of CMR evaluation: group 1 (n=18)- patients without ME, and group 2 (n=37h - patients with ME detected by CMR. End-diastolic and end-systolic volume indexes (EDVI and ESVI), ejection fraction (EF), and stroke volume (SV) were measured in all patients. **RESULTS**: Compared to those without My ME, patients with positive signs of ME on CMR imaging were older (42.9 ± 14.8 vs. 36.7 ± 16.6, p=0.02), and the majority were males (59.4% vs. 38.8%). Additionally, EF was substantially lower in patients with ME (50.9 ± 14.5% in group 2 vs. 58.4 ± 10.2% in group 1, p=0.03). Moreover, patients belonging to group 2 had a more accentuated dilatation of ventricular cavity, proven by a substantial increase in ventricular volumes. This was the most evident in the case of patients with ESVI (109.8 ± 125.9 vs. 80.1 ± 14.2, p=0.5 for EDVI, and 65.2 ± 109.1 vs. 30.0 ± 11.4, p=0.02 for ESVI). Stroke volume index was notably lower in patients with ME compared to those without (44.2 ± 17.3 in group 1 vs. 47.7 ± 7.5 in group 2, p=0.03). **CONCLUSION**: COVID-19 myocarditis present with positive signs of ME on CMR investigations was linked to a decreased trajectory of left ventricular function due its direct correlation with an increased ventricular dilatation and reduced cardiac output.

## Powerpoint Session
## REVIEWS

### 01. FERROPTOSIS-INDUCED PULMONARY FIBROSIS: MECHANISTIC INSIGHTS AND THERAPEUTIC PROSPECTS

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**INTRODUCTION**: Ferroptosis is an iron-dependent, non-apoptotic cell death characterized by the lethal accumulation of lipid reactive oxygen species. Recent studies suggest that addressing the process of ferroptosis could provide a promising therapeutic approach for fibrotic diseases, including pulmonary fibrosis, a pathological condition marked by the abnormal buildup of extracellular matrix in pulmonary tissues. This review aims to synthesize current knowledge on the mechanistic insights of ferroptosis and its implications in pulmonary fibrosis, alongside identifying innovative potential therapeutic targets of the regulatory mechanisms of this phenomenon. **MATERIALS AND METHODS**: Extensive literature searches were conducted using the PubMed, Medline, ERS Journals and Web of Science bibliographic databases, focusing on articles published between 2012 and 2024. The keywords used were: "ferroptosis", "fibrosis", "lungs", and "therapeutic". Out of the 214 articles reviewed, only 89 were selected for inclusion in the study. **RESULTS**: Iron levels are significantly elevated in lung tissues of individuals diagnosed with idiopathic pulmonary fibrosis (IPF), while human lung fibroblasts exhibit a significant profibrotic response to increased iron concentrations. The dysregulation of the redox state within lung tissue has been extensively documented in IPF. An important factor in the progression of the pathological process is the pronounced reduction in levels of essential antioxidant compounds, including nuclear factor erythroid-2-related factor 2 (Nrf2), glutathione (GSH), and glutathione peroxidase 4 (GPX4). A series of studies underscored the critical role of GPX4 in mediating lipid peroxidation during pulmonary fibrosis, establishing a link between reduced GPX4 expression and enhanced lipid peroxidation in IPF fibroblasts. This lipid peroxidation, resulting from low GPX4 levels, facilitates the progression of IPF through the activation of the transforming growth factor beta (TGF-β) signaling pathway. The interaction between iron overload and GPX4-mediated lipid peroxidation indicates a potential activation of ferroptosis in the pathogenesis of IPF. **CONCLUSION**: Recently, the number of studies that revealed the causal link between ferroptosis and idiopathic pulmonary fibrosis has increased significantly. The researches established the reduction of the antioxidant protection capacity, the amplification of lipid peroxidation and the hyper activation of some signaling pathways in the lungs, which could constitute pathogenic mechanisms of fibrosis, but also potential therapeutic targets.

### 02. ARTIFICIAL BLOOD: A SOLUTION FOR BLOOD TRANSFUSION SHORTAGES

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**INTRODUCTION**: The ongoing search for a blood substitute has been a significant focus for over a century, yet no solution has fully replaced donated blood in clinical settings. Hemoglobin-based oxygen carriers (HBOCs) and perfluorocarbon-based products(PBPs) have emerged as potential alternatives. This review examines recent developments in the field, assessing the importance of artificial oxygen carriers in bridging the gap in situations where blood transfusions are not viable due to medical, logistical, or religious reasons. **MATERIALS AND METHODS**: A literature review was conducted based on the PRISMA guidelines, covering studies from 2020 to 2024. Databases such as PubMed and Scopus were searched using keywords including "artificial blood," "hemoglobin-based oxygen carriers," and "perfluorocarbon-based products." Ten articles were selected, including clinical trials focusing on HBOCs and PBPs. The patient population ranged from 18 to 70 years, primarily in trauma and surgical care. These studies were chosen for their relevance in assessing the efficacy and safety of artificial blood products in clinical settings where traditional blood transfusions are unavailable. **RESULTS**: While no HBOCs or PBPs have completely succeeded in replacing human blood, progress has certainly been made in the field. Previous products, including HemAssist, PolyHeme, and Hemospan, were taken off the market due to safety concerns and adverse effects observed during use. On the other hand, Hemopure is still utilized in specific clinical settings, particularly in South Africa and Russia. Its veterinary counterpart, Oxyglobin, is approved for use in animals in both the United States and the European Union. Additionally, new products like Sanguinate are being developed to enhance oxygen delivery in situations such as sickle cell crises and traumatic injuries, offering promising alternatives. **CONCLUSION**: Although there are still significant concerns about the safety and effectiveness of artificial blood substitutes, ongoing research is vital to realizing their full potential. While it is unlikely that these products will fully replace human blood donations, they do provide valuable alternatives for patients who cannot access traditional blood supplies. As research progresses, we can expect to see exciting developments that may expand the clinical uses of these artificial oxygen carriers in the coming years.

03. **TUMOR INFILTRATING LYMPHOCYTES' ROLE IN BREAST CANCER TREATMENT**

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**INTRODUCTION**: Tumor infiltrating lymphocytes (TILs) are a subset of lymphocytes located within the tumor microenvironment of solid malignancies. Studies have highlighted the promising therapeutic potential of TIL-based treatments for various carcinomas, opening new strategies in developing a personalized care plan.TIL therapy is a cell-based immunotherapy using the patient's own immune cells, isolated from the tumor microenvironment, to eliminate tumor cells. While conventional treatments for breast cancer (BC) have demonstrated efficacy, the utilization of TIL both as a prognostic biomarker and as a therapeutic option has shown promising results, particularly in challenging subtypes, such as triple-negative breast cancer (TNBC). **MATERIALS AND METHODS**: For this study, we selected the information from PubMed and Google Scholar databases , focusing on the role of TILs in breast cancer treatment. The reviewed literature encompasses studies conducted on patients with breast carcinoma, demonstrating favorable clinical outcomes, and emphasizing the potential of TILs as predictive biomarkers and as an alternative therapeutic approach for the more aggressive BC forms, such as TNBC. **RESULTS**: Analysis of published research indicates that TILs positively influence the clinical outcomes of BC patients. While their impact is less pronounced in ER-positive breast cancer, TILs exhibit prognostic value in HER2-positive and TNBC subtypes, TIL percentages correlating with favorable clinical outcomes. Studies suggested that in patients with TNBC, higher levels of TILs within the local tumor environment were associated with improved survival rates, compared to lower levels. Moreover, it has been reported that every 10% increase of TILs benefits the clinical outcome of TNBC patients. Although the majority of HER2 positive breast cancers display similar levels of immune infiltrate as TNBC, the presence of TILs has not demonstrated similar survival benefits. **CONCLUSION**: The findings support the hypothesis that TILs might play, in the future, a pivotal role in predicting and treating TNBC. Even if TILs show clinical importance as a biomarker for BC, the use of TIL-based immunotherapy, which has shown efficacy in other types of solid tumors, is yet to be studied. There is a critical need for further research in the fields of immunology and oncology to improve the efficiency of personalized therapeutic strategies envisioned by modern medicine.

04. **THE OPTIMISTIC FUTURE OF ALZHEIMER'S TREATMENT: EXPLORING MONOCLONAL ANTIBODY THERAPY ADVANCES**

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**INTRODUCTION**: Alzheimer's disease (AD), the leading cause of dementia, is characterized by the accumulation of beta-amyloid (Aβ) peptides, triggering neurofibrillary tangles and inducing brain changes known as the amyloid cascade. This cascade leads to neuroinflammation, neuronal damage, and cognitive decline, making β-amyloid a key focus for research and treatment. Therefore, the development of anti-amyloid monoclonal antibodies (mAbs) represents a significant step forward in Alzheimer's treatment, providing the first disease-modifying therapies (DMTs) for neurodegenerative disorders. Clinical studies reveal that mAbs can delay cognitive decline, revealing their promise for treating β-amyloid disease. **MATERIALS AND METHODS:** This review is based on multiple papers published between 2022 and 2024 and selected from PubMed and ScienceDirect using the keywords "monoclonal antibody" and "Alzheimer's disease". The main inclusion criterion required participants to either be receiving treatment with a specific anti-amyloid monoclonal antibody or be eligible for such treatment. **RESULTS**: The first generation of monoclonal antibodies used in Alzheimer's disease treatment, targeted Aβ monomers but showed little clinical benefit. In contrast, second-generation mAbs focus on oligomeric Aβ, which represents a key pathogenic factor. Thus, donanemab, gantenerumab, and lecanemab are among the first treatments to slow disease progression. PET and MRI imaging have shown a reduction in amyloid plaques and brain volume changes in patients treated during the early stages of Alzheimer's. **CONCLUSION:** Despite promising results from clinical trials, more well-tolerated treatments are still needed. The limited slowing of Alzheimer's disease progression after anti-Aβ monoclonal antibodies treatment suggests that additional pathogenic mechanisms must be targeted. In the future, combining these therapies with other approaches could offer more effective remedies for the disease.

05. **BREAKING THE CHAIN: PREVENTING MOTHER-TO-CHILD TRANSMISSION OF MPOX**

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**INTRODUCTION**: The World Health Organization recongnizes Mpox (formerly known as Monkeypox) as a viral disease caused by an orthopoxvirus called monkeypox virus. Infections, spread through close contact, can lead to severe rashes, fever and enlarged lymph nodes. The disease can be fatal without proper treatment, especially for certain groups such as children. The virus can be passed on to the fetus during pregnancy or to the newborn by contact during and after birth. **MATERIALS AND METHODS**: This review is based on multiple articles, published between 2022 and 2024, selected from PubMed and ScienceDirect using keywords "pregnancy" and "Mpox treatment". The main purpose of this evaluation was to determine and analyze the maternal and perinatal outcomes of pregnancies complicated by the Mpox infection. **RESULTS**: Research indicates that clade IIb Mpox can be transmitted vertically from mother to fetus in macaque pregnancies, affecting the placenta and various cell types. This mechanism is similar to clade I Mpox infection in humans. Adverse outcomes of this disease include preterm labor, pregnancy loss, maternal death, mother-to-child Mpox transmission, small-for-gestational age, low birthweight, microcephaly, and congenital anomalies. The CDC (The Centers for Disease Control and Prevention) recommends tecovirimat as the first-line treatment for pregnant women with confirmed Mpox, while cidofovir and brincidofovir are avoided due to teratogenic risks. Two vaccines are available: ACAM2000, contraindicated in pregnancy, and JYNNEOS, which is supported by the FDA (Food and Drug Administration) for use during gestation based on reassuring animal studies. **CONCLUSION**: In light of these findings, it is crucial to prioritize research and public health measures that ensure the safety of females who are pregnant and at risk for Mpox, as outcomes may be worse for them and their fetuses. It is also essential to advance the understanding of effective treatments and preventive strategies.

06. **DYSREGULATION OF UBIQUITIN-PROTEASOMAL PATHWAY IN NEURODEGENERATIVE DISEASES: A NARRATIVE REVIEW**

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**INTRODUCTION**: Ubiquitin plays an essential role in various cellular processes, including protein degradation, signaling, and trafficking. Dysregulation of ubiquitin-mediated pathways has been implicated in a wide range of neurodegenerative diseases. Therefore, ubiquitin poses a multifaceted role in the pathogenesis of these disorders, especially regarding the UPS (Ubiquitin-proteasome system), which plays a crucial role in preventing unwanted protein deposits that are very harmful towards the brain and major risk factors for neurodegenerative disorders. Understanding the molecular mechanisms of UPS is fundamental for developing new treatments that target this system to prevent or slow down these diseases. **MATERIALS AND METHODS**: Our systematic review analyzed relevant articles from recent 10 years published on PubMed, ScienceDirect, Elsevier, and The Lancet as a result of research using the following keywords: "ubiquitin," "ubiquitin-proteasome," and "neurodegenerative diseases". **RESULTS**: Most genetic studies have shown that E3 ligase dysfunction is strongly linked with further development of neurodegenerative disease on the pathological basis of amyloid deposits, mitochondrial dysfunction, impaired autophagy and inflammation. One of the most important proteins involved in the evolution of neurodevelopmental disorders are the E3 ligases, enzymes that catalyze the transfer of ubiquitin to target proteins. Dysregulation of E3 ligases can lead to protein aggregation, mitochondrial dysfunction, and ultimately neuronal cell death, pathologically translated as dementia, schizophrenia, etc. **CONCLUSION**: Ubiquitin dysregulation, particularly through E3 ligase dysfunction, emerges as a critical factor in the pathogenesis of neurodegenerative diseases. UPS plays a vital role in preventing protein aggregation, a hallmark of these disorders. Understanding the molecular mechanisms underlying E3 ligase dysfunction offers promising avenues for developing targeted therapeutic interventions. By modulating UPS activity or addressing E3 ligase dysregulation, novel strategies could potentially mitigate the progression of neurodegenerative diseases and improve patient outcomes.

07. **EXPLORING DEEP BRAIN STIMULATION FOR OBSESSIVE-COMPULSIVE DISORDER AND TREATMENT-RESISTANT DEPRESSION**

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**INTRODUCTION**: Deep Brain Stimulation (DBS) is a neuromodulation technique widely used as a standard treatment for Parkinson's disease, essential tremor, and dystonia. The procedure involves implanting electrodes in specific brain areas, which are connected to a pacemaker-like device that delivers electrical stimulation. Given its success in movement disorders, DBS has been investigated as a treatment for psychiatric conditions, with the most data available for Obsessive-Compulsive Disorder (OCD) and Treatment-Resistant Depression (TRD). **MATERIALS AND METHODS**: A systematic literature search was conducted using data retrieved from the PubMed, MEDLINE, Cochrane Library, and Embase databases. The search focused on studies published between 2020 and 2024, employing the following keywords: "deep brain stimulation", "Obsessive-Compulsive Disorder" and "Treatment-Resistant Depression". **RESULTS**: Clinical outcomes demonstrate that the most effective DBS targets for OCD include the anterior limb of the internal capsule (ALIC) and anteromedial subthalamic nucleus (amSTN), with notable reductions in Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) scores. These targets function as nodes within common neural networks, connected by white matter tracts linking cortical areas involved in decision-making, emotion regulation, and compulsive behaviors. Other targets employed in OCD include ventral capsule/ventral striatum (VC/VS), the nucleus accumbens, inferior thalamic peduncle, bed nucleus of stria terminalis, playing a crucial part in processing motivation, reward and aversion. Similarly, the VC/VS and subcallosal cingulate cortex (SCC) are key targets for TRD, showing significant reductions in Montgomery-Åsberg Depression Rating Scale (MADRS) scores. VC/VS stimulation improves mood and social behavior, while SCC induces alleviation of anxiety, easing the difficulty of breathing or moving. Studies support the viability of DBS as a treatment for OCD even in patients with complex comorbidities, such as depression and anorexia nervosa. **CONCLUSION**: DBS is a promising treatment for psychiatric disorders, applicable to a broader range of patients to whom prior treatments have failed. Future developments, particularly in integrating advanced technologies, may facilitate the identification of personalized targets and improve clinical outcomes for patients, aligning treatment more closely with each clinical phenotype involved in these disorders.

08. **ALUMINUM CHLORIDE TOPICALS: NEW GOLDEN STANDARD FOR AXILLARY HYPERHIDROSIS OR A LEADING CAUSE OF BREAST CANCER?**

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**INTRODUCTION**: Idiopathic hyperhidrosis affects 2.8% of worldwide population, decreasing their quality of life. Injecting botulinum toxin is an invasive, painful, and expensive therapy, making aluminum chloride (AC) topicals an alternative option. However, the rising incidence of breast cancer leads to the question of whether AC usage in axillary quadrant is associated with this condition, making this review`s aim. **MATERIALS AND METHODS**: Studies from 2007 to 2023 were searched in PubMed and Google Scholar databases, using keywords ”aluminum chloride”, ”hyperhidrosis” and ”breast cancer”. Inclusion criteria were studies assessing genetic modifications of human breast cancer cells, localization, and concentration of Aluminium in skin tissue via biopsy. Articles with other treatment methods, and overlapping were excluded. Bias risk was not evaluated and PRISMA guidelines were used for data synthesis. **RESULTS**: Sappino et al. (2012) studied MCF-10A cell line (normal human mammary epithelium), exposed for 6-9 weeks to pure diluted AC, in the same concentration as 3 commercially available antiperspirants. MCF-10A cells lost focal contact of inhibition and gained autonomous growth ($p<0.0001$), indicating increased proliferation stress. Exley et al. (2007) measured aluminum concentration in 17 breast cancer biopsies, discovering higher values in the axilla region 3-192 nmol/g, than in the inner breast region (middle 3-51 nmol/g and medial 3 – 122 nmol/g) ($p=0.033$). Wen-Tsao Ho et al. (2023) studied aluminum localization in axilary skin of n=10 patients, stating that aluminum didn’t pass the axillary apocrine glands to other local tissue. Results were consistent with previous research conducted by Yamashita et al. (2012) on n=127 patients with palmar hyperhidrosis, study which was selected due to its immunofluorescence precise localization of aluminum in skin tissue. Aluminum was seen only on the surface of the stratum corneum and in the amorphous cost that blocks the sweat ducts. **CONCLUSION**: No conclusive evidence suggests that AC is a breast carcinogen, but there are DNA modifications in breast epithelial cells. In vitro results managed to prove the hypothesis, but biopsies led to different conclusions since aluminum localization was too superficial to create any damage. Consequently, more research is needed.

09. **CRISPR/CAS SYSTEMS – THE NEXT BREAKTHROUGH IN THE BATTLE AGAINST HIV**

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**INTRODUCTION**: Ever since AIDS emerged as a global issue decades ago, numerous researchers have attempted to find an effective treatment for HIV. Although antiretroviral therapy (ART) effectively reduces the impact of HIV, it does not offer a definitive cure. However, recent years have shown that CRISPR/Cas systems are an effective way to overcome this ongoing challenge. **MATERIALS AND METHODS**: A systematic search was conducted in 3 different databases (Pubmed, Web of Science and Scopus) up to September 2024. Out of 774 initially found studies, 24 were selected for the purpose of this review. The search was performed using specific keywords ("CRISPR", "HIV", "therapy"). We included articles that describe strategies of HIV treatment using CRISPR/Cas systems. **RESULTS**: The results indicate the existence of multiple therapeutic approaches for treating HIV using CRISPR/Cas systems, with techniques such as direct viral gene disruption, host restricting factor induction, host dependency factor disruption and latency reversal. The use of CRISPR/Cas systems in developing these techniques has improved accuracy, simplified processes, reduced adverse effects, and lowered costs. **CONCLUSION**: CRISPR/Cas systems have the potential to significantly contribute to the development of HIV infection therapies. While there is still a considerable distance to traverse before establishing methods that can be used without restrictions on human patients, the studies initiated thus far offer promising indications for the future.

10. **REVIEW OF IMMUNE CHECKPOINT INHIBITION IN METASTATIC COLORECTAL CANCER: ADVANCES AND CHALLENGES**

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**INTRODUCTION**: Immune checkpoint inhibition (ICI) is a form of therapy that introduced novel therapeutic opportunities for the management of solid tumors and proved successful in certain types of cancer. This approach targets key proteins on immune cells or tumor cells, thereby modulating the anti-tumor immune response. ICI therapy gained researchers' attention following positive outcomes in melanoma patients. Stage IV metastatic colorectal cancer (mCRC) has narrow curing possibilities and ICI may open a new stable pathway of treatment, with the potential to elicit a robust and sustained anti-tumor response. **MATERIALS AND METHODS**: Data has been collected from PubMed and Scopus databases, using key terms such as "Immune checkpoint inhibition" OR "immune checkpoint inhibitors" OR "PD-1" OR "PD-L1" OR "CTLA-4" AND "colorectal cancer" OR "CRC" OR "rectal cancer" OR "colon cancer" OR "colorectal carcinoma", to determine under which circumstances the therapeutic effect is accomplished. The selected articles focused on underpinning the immune mechanisms which facilitate the treatment in mCRC patients. **RESULTS**: The findings revealed a spectrum of factors that support ICI as a cancer treatment in metastatic colorectal cancer that is mismatch-repair-deficient and microsatellite instability-high (dMMR-MSI-H). However, the prevalence of dMMR-MSI-H in stage IV CRC is relatively low and, in the majority of mCRC cases which were microsatellite instability-low (dMMR-MSI-L), ICI therapy has shown limited clinical benefit. This is attributed to the absence of immunogenic mutations and low levels of neoantigen production of mismatch-repair-proficient/microsatellite-stable tumors, which are crucial for the effectiveness of this type of treatment. Thus, defective DNA mismatch-repair is a key figure in the efficacy of the ICI treatment. Immune cells' affinity for ICI increases based on the number of mutations in DNA bases. **CONCLUSION**: Immune checkpoint inhibitors have a therapeutic potential in certain types of metastatic colorectal cancers. The targeted patients need to be well stratified to obtain a positive response. Further research is required to define the right inclusion and exclusion criteria for therapy and to identify patients who are most likely to benefit from ICI therapy.

11. **STROKE REHABILITATION: STRATEGIES FOR RECOVERY, EMPOWERMENT AND REGAINING INDEPENDENCE**

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**INTRODUCTION**: The primary aim of stroke rehabilitation is to facilitate the recovery of patients from the physical and neurological impairments caused by stroke. Ischemic strokes, caused by reduced cerebral blood flow, and hemorrhagic strokes, caused by intracranial bleeding, result in brain damage that impairs essential functions such as movement, speech, cognition, and emotional regulation. Rehabilitation efforts focus on helping patients regain lost abilities or adapt to new functional limitations, with an increasing emphasis on leveraging neuroplasticity to enhance recovery outcomes. **MATERIALS AND METHODS**: A systematic review of the literature was conducted using materials sourced from the PubMed , MDPI databases focusing on the key terms "stroke", "rehabilitation" and "neurorehabilitation."
**RESULTS**: Several brain stimulation techniques, including vagus nerve stimulation (VNS) and non-invasive methods like transcranial magnetic stimulation (TMS) and transcranial direct current stimulation (TDCS), show promise in improving motor recovery post-stroke. Preliminary evidence suggests that VNS, when paired with task-specific upper limb therapy, significantly enhances motor recovery in chronic stroke patients. TDCS, applied via scalp electrodes, has been demonstrated to modulate interhemispheric inhibition, potentially improving upper limb function. Meta-analytic data suggest a dose-response relationship, though variability remains across studies. Ongoing research, such as the TRANSPORT2 trial, is investigating optimal dosage and rehabilitation combinations. Additionally, TDCS has shown potential in treating aphasia, particularly through anodal stimulation over the left inferior frontal gyrus to enhance speech production. TMS studies suggest benefits for upper extremity recovery, with low-frequency stimulation over the unaffected hemisphere and high-frequency stimulation over the affected hemisphere, particularly in the subacute phase. However, the efficacy of TMS in chronic-phase recovery is less consistent. **CONCLUSION**: Stroke often results in significant motor and cognitive deficits that severely impact functional independence and quality of life. Neurorehabilitation, particularly with a focus on restoring upper limb function and improving speech, is crucial for enhancing recovery. Recent advances in brain stimulation techniques offer promising adjuncts to conventional rehabilitation by promoting neuroplasticity and potentially improving functional outcomes. Further research is needed to refine stimulation protocols and better understand the mechanisms by which these interventions enhance recovery.

12. **MIND AND GUT: NEW PERSPECTIVE INTO GHRELIN FUNCTIONS**

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**INTRODUCTION**: Ghrelin (Ghr) is a 28-amino-acid gastrointestinal peptide first discovered in 1999 in the rodent stomach. As a critical orexigenic hormone, its well-established role is regulating metabolism via binding to the growth hormone secretagogue receptor (GHSR)1a. Recent studies shed light on new-found functions, such as stress response, anxiety, motivation, and mood. **MATERIALS AND METHODS**: Systemic searches on PubMed, World of Science, and Elsevier databases were performed for all publications using the terms: „ghrelin", „depression", and „anxiety". This review is based on 16 articles published in the last 10 years that studied the ongoing debate about the role of ghrelin in mood disorders such as depression and anxiety and possible alternative anti-depressant therapy. **RESULTS**: Ghrelin is a multifunctional hormone highly based on circumstances. While the majority of research papers support higher ghrelin levels with anxiolytic and anti-depressive behaviours, there have been studies linking it to major depressive disorder (MDD), suicide attempts, post-menopausal depression, post-partum depression. In-depth research on ghrelin signaling and anti-depressant treatment could provide insight into treatment resistance mechanism, identifying antidepressant medication with higher response rate with a given metabolic state. Furthermore, correlations between plasmatic acyl-ghrelin levels report variable associations towards anxiolytic- and anti-depressive behaviours in both human and animal studies. In rats and mice repeated tail pinch, water avoidance stress, daily restraint, chronic unpredictable stress, and chronic social defeat stress all increased plasma ghrelin, leading to increased inflammation. From another perspective, sex-divergent effects and estrogen-mediated ghrelin also play a crucial role in the signaling pathway, as females have higher ghrelin plasma levels than males. **CONCLUSION**: The review highlights the complex and context-dependent role of ghrelin in mood disorders, particularly depression and anxiety. More studies are needed to investigate the conflicting findings regarding the anxiolytic- versus anxiogenic bevahiour of ghrelin. Understanding ghrelin's signaling pathways could be key to developing more effective antidepressant therapies, especially in treatment-resistant cases, where metabolic factors may influence drug efficacy.

13. **TREATMENT FOR PAEDIATRIC ACUTE LYMPHOBLASTIC LEUKAEMIA: A REVIEW ON BLINATUMOMAB**

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**INTRODUCTION**: Standard chemotherapy (SC) in paediatric Acute Lymphoblastic Leukaemia (ALL) is generally associated with high mortality, high rates of neurotoxicity and other severe toxicities. A bispecific T-cell engager antibody called Blinatumomab offers a promising alternative to SC in children by binding to both CD19 protein expressed on the surface of ALL cells and CD3 protein specific to the surface of T-cells, allowing the latter to lyse ALL cells.: **MATERIALS AND METHODS**: This review uses 7 articles published on PubMed from 2014 to 2023, all of which compare SC and Blinatumomab treatment, with the aim of testing the efficacy and safety of this new therapy in children. Patients with central nervous system pathologies (e.g. epilepsy, seizures, stroke, severe brain injuries, paresis, cerebellar disease) were excluded. **RESULTS**: One of the main studies included 108 young patients (28 days to 18 years old, from 13 different countries) with high-risk first-relapse B-ALL who were split into 2 groups of 54 participants each, randomised to receive either 1 cycle of Blinatumomab or 1 cycle of SC. The purpose of this phase 3 trial was event-free survival (events being death, relapse, failure to achieve complete remission). 16 patients (29.6%) in the SC group and 8 patients (14.8%) in the Blinatumomab group died, but there were no fatal adverse effects in either group. The incidence of serious adverse events was 24.1% in the Blinatumomab group compared to 43.1% in the SC group.: **CONCLUSION**
In 2014, the FDA granted accelerated approval of Blinatumomab. While further research is needed to evaluate long-term outcomes and optimise dosing strategies, Blinatumomab therapy shows promise in paediatric ALL, particularly in relapsing patients. The benefits outweigh the risks, with side effects generally being manageable,

14. **SGLT2 INHIBITORS IN HEART FAILURE MANAGEMENT- A SYSTEMATIC REVIEW**

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**INTRODUCTION**: Heart failure (HF) represents a medical condition defined by the myocard's inability to efficiently pump blood and is one of the leading causes of morbidity and mortality worldwide. Originally intended as a glucose-lowering drug, sodium-glucose cotransporter-2 inhibitors (SGLT2i), have proven to be a remarkable contributor in reducing the risk of hospitalization for HF. The aim of this systematic review is to assess the viability of SGLT2i administration in HF occurrence rate diminishment. **MATERIALS AND METHODS**: 919 publications were identified focusing on HF, SGLT2i and hospitalization. The final analysis is based on 13 Pubmed eligible articles published between 2021-2024. Inclusion criteria comprised patients diagnosed with heart failure with reduced ejection fraction (HFrEF), type-2 diabetes and chronic kidney disease, while exclusion criteria consisted of hypertensive patients, those presenting type-1 diabetes or low glomerular filtration rate. All selected patients followed a randomized and double-blinded treatment scheme (1:1 ratio) with placebo or Dapagliflozin/Empagliflozin 10 mg daily, additionally to their usual heart failure medication. Periodical assessment was conducted as to analyze outcomes and functional capacity related to heart failure, intensification of diuretic therapy, vital signs, heart failure routine biomarkers, and adverse events. **RESULTS**:: Results proved that compared to the placebo, SGLT2i demonstrated a significantly reduced risk of cardiovascular death by 38%, all-cause mortality by 32%, and heart failure-related hospitalizations by 35%. However, there was no significant difference in myocardial infarction or stroke incidence. The SGLT2 inhibitors have exhibited important cardioprotective effects through reduction of intracellular sodium levels, which prevents calcium overload caused by upregulated sodium-hydrogen exchanger (NHE1) and consequent exploitation of the Na+/Ca2+ exchanger. SGLT2i have been shown to reduce intracellular sodium concentrations by inhibition of NHE1, Na+/Ca2+ balance restoration and cardiomyocyte death prevention. Another theory supports that, on a molecular level, exposure to gliflozin treatment mimics nutrient and oxygen deprivation, with subsequent autophagy stimulation, maintaining cellular homeostasis through different degradative pathways. **CONCLUSION**: Overall, recent research on the SGLT2 inhibitors shows promising results for being a safe and effective addition to the standard treatment of heart failure, with great potential for increasing cardiovascular protection, reducing hospitalization and improving overall patient outcome.

15. **DUAL SYMPTOM MANAGEMENT IN FIBROMYALGIA: HOW TMS REDUCES BOTH PAIN AND DEPRESSION**

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**INTRODUCTION**: Fibromyalgia and depression are debilitating conditions that significantly affect patients' quality of life, leading to chronic pain and mood disturbances. Existing treatments often have limited efficacy, necessitating innovative approaches. Transcranial Magnetic Stimulation (TMS) is a promising non-pharmacological intervention that targets the left dorsolateral prefrontal cortex (DLPFC) and the primary motor cortex (M1) to alleviate both pain and depression. **MATERIALS AND METHODS:** This review analyzed 10 articles from PubMed, published between 2018 and 2024, all utilizing randomized controlled trials. The studies varied in terms of TMS protocol (DLPFC vs. M1), stimulation frequency (1 Hz – 10 Hz), intensity, and the number of sessions administered. Studies used validated scales such as the Hamilton Depression Rating Scale (HDRS) for depression and patient-reported outcomes for pain assessment. Inclusion criteria required patients to have a minimum duration of fibromyalgia symptoms of 6 months and a diagnosis of moderate to severe depression. Some studies employed skin conductance as an objective physiological marker to assess stress and anxiety, providing a more comprehensive evaluation of TMS efficacy. **RESULTS**: Studies on TMS application to DLPFC and M1 indicate distinct patterns of efficacy in treating depression and pain. TMS applied to the DLPFC demonstrated significant improvements in depressive symptoms, with reductions in HDRS scores of up to 40%, as patients reported enhanced mood and emotional regulation. Conversely, TMS applied to M1 was associated with reductions in pain scores, with some studies showing pain reductions of up to 35% and increased levels of endogenous opioid activity. One study highlighted that TMS applied to M1 was more effective in reducing musculoskeletal pain, while DLPFC stimulation provided superior outcomes for mood regulation. **CONCLUSION:** TMS applied to different brain regions offers a targeted approach for treating fibromyalgia and depression. The findings suggest that DLPFC stimulation is more effective for ameliorating depressive symptoms, while M1 stimulation yields better outcomes for pain management. These underline the potential of combining TMS protocols to achieve comprehensive symptom relief in patients suffering from both fibromyalgia and depression. Future research should focus on standardizing TMS intervention protocols, exploring the effects of combining DLPFC and M1 stimulation.

16. **IS THERE MAGIC IN THE MAGEC SYSTEM? MAGNETICALLY CONTROLLED GROWING RODS FOR EARLY-ONSET SCOLIOSIS**

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**INTRODUCTION**: Managing early-onset scoliosis (EOS) has traditionally relied on growing rods, which require frequent invasive surgeries. The introduction of the MAGEC system—magnetically controlled growing rods—offers a non-invasive alternative. This review aims to evaluate the clinical outcomes of the MAGEC system versus traditional growing rods (TGR), highlighting its potential to revolutionize EOS treatment by reducing surgical frequency and enhancing effectiveness. **MATERIALS AND METHODS:** An extensive literature review was conducted using the PubMed database to identify relevant studies on the MAGEC system. Keywords included: magnetically controlled growing rods, early-onset scoliosis, pediatric orthopedics, and spinal surgery. Inclusion criteria were based on factors such as frequency of surgical interventions, spinal curvature correction, and T1-S1 lengthening. Studies that did not meet these criteria or had significant overlap were excluded. Bias risk was not assessed, and PRISMA guidelines were followed for data extraction. **RESULTS:** Out of the initial 12 studies, 6 met the inclusion criteria, dating from 2014 and involving 330 patients. Samadov et al. (2023) revealed that the MAGEC system significantly reduced the frequency of surgical interventions (99 in TGR vs. 25 in MAGEC, $p < 0.001$). Akbarnia et al. (2014) demonstrated comparable spinal curvature correction (MD: -1.85 degrees, $p < 0.05$) but a difference in T1-S1 lengthening. MAGEC patients experienced an average increase of 8.1 mm/year in T1–S1 during the lengthening period, compared with 9.7 mm/year for TGR patients. Additionally, there was a mean increase in T1–T12 of 1.5 mm/year for MAGEC patients versus 2.3 mm/year for TGR patients. **CONCLUSION:** The MAGEC system represents a significant advancement in treating early-onset scoliosis, offering fewer surgical interventions and shorter hospital stays compared to traditional growing rods. Despite concerns about long-term durability, clinical outcomes suggest the MAGEC system provides an effective, less invasive option for managing EOS. Continued research and long-term follow-up are necessary to fully evaluate the system's long-term efficacy and safety.

17. **ROOTING OUT ADVANCED OVARIAN CANCER: CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY APPROACH**

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**INTRODUCTION**: Ovarian cancer (OC) remains the leading cause of gynaecological cancer death worldwide, due to its high recurrence rate and marked propensity for direct peritoneal spread at diagnosis (75%). Cytoreductive Surgery (CRS) combined with Hyperthermic Intraperitoneal Chemotherapy (HIPEC) constitutes a notoriety-gaining therapeutical approach which targets remaining microscopic intraperitoneal residual tumor after radical resection. The aim of this review is to assess the feasibility of this treatment strategy in decreasing OC recurrence, prolonging survival and improving quality of life in oncologic patients. **MATERIALS AND METHODS:** This review is based on 11 PubMed articles (9 Original Studies, 2 Meta-Analyses) published between 2018-2022, totalling 1128 patients. Inclusion criteria comprised patients aged ≥ 18 diagnosed with primary/recurrent epithelial ovarian, tubal and peritoneal carcinoma staged ≥ IIIB, and without general anesthesia contraindications for major surgery, while those who underwent previous surgery due to peritoneal metastases, recurrence, borderline tumor or presenting other histological subtypes were excluded. After preoperative evaluation of peritoneal dissemination using abdominal and chest CT scan and CRS for maximum tumor excision, closed HIPEC infusion was performed using platinum-based drugs at the temperature of 41.5 °C administered through four drains, followed by thorough abdomen re-exploration after HIPEC completion. **RESULTS:** Auspicious results were proven regarding overall survival (OS), disease-free survival (DFS) and progression-free survival, as well as post-operative morbidity when comparing HIPEC and CRS association to standard treatment alone. Post-treatment analysis for 1-5 years OS displays that HIPEC benefits are statistically significant from the second year, with a reduction of 36% in the risk of death which gradually shortened to 23% at the fifth year. As DFS is concerned, a striking 42% reduction in the risk of recurrence is observed directly from the first year of follow-up, thus advocating for a drastic diminishment at a short time window. With regard to any-grade adverse effects, increased prothrombin time and acute kidney injury were prevalent after HIPEC performance. However, the beneficial effect on recurrent OC is still under further discussion. **CONCLUSION:** Overall, current evidence upon the use of HIPEC and CRS highlights promising results in epithelial OC therapeutical approach, with optimistic prospects for managing cancer survivorship and its dramatic medical and psychosocial consequences.

18. **TOOTHFAIRY MAY RESTORE YOUR SIGHT? OSTEO-ODONTO-KERATOPROSTHESIS A REVIEW OF AN UNUSUAL PROCEDURE**

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**INTRODUCTION**: Osteo-odonto-keratoprosthesis (OOKP) is a unique surgical procedure designed to restore vision in patients suffering from severe corneal blindness, particularly when other means, such as keratoplasty are contraindicated. The procedure involves extracting a mono-radicular tooth and its surrounding alveolar bone and using a diamond-tipped drill to shape the tooth and bone complex to its desired measurements. An optical cylinder is introduced and this osteo-odonto-acrylic-lamina (OOAL) is planted in the affected eye. It has shown significant success in patients with autoimmune disorders like Stevens-Johnson syndrome (SJS) or ocular trauma. The main objective of this review is to assess the latest data regarding the efficacy, patient outcomes, and long-term challenges associated with OOKP. **MATERIALS AND METHODS:** This review is based on articles published on ScienceDirect between 2012-2023. Ten articles are used to assess several elements of this procedure for instance the intricacy of the two stages in which the operation takes place and the possible complications. The main criteria for inclusion were adult patients with bilateral corneal blindness from end-stage ocular diseases such as SJS, severe dry eye states, cicatricial trachoma, or ocular damage caused by chemical burns or dog bites. Exclusions such as patients with phthisis bulbi or eyes that can't perceive light with detached retinas were used. **RESULTS:** From the total of 139 identified articles, 10 were analysed and all found that OOKP has an 85% improved visual acuity after 5 years post-operation. Despite its effectiveness, OOKP is not without complications. Glaucoma related complications developed in 19% of patients. Selection bias may be possible because of the lack of comorbidities in patients presented which may influence the outcomes. **CONCLUSION:** In patients where the usual keratoplasty can't be used due to multiple problems notably autoimmune diseases, trauma or recurrent immunological rejection OOKP has shown great potential but is limited by its sheer complexity. More research is needed to refine the procedure and reduce complication rates.

19. **BREAST IMPLANT ASSOCIATED ANAPLASTIC LARGE CELL LYMPHOMA - REALITY OR FICTION? A SYSTEMATIC REVIEW**

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**INTRODUCTION**: Recently, a controversial topic in plastic surgery is the use of textured implants and their potential linkage to breast implant-associated anaplastic large cell lymphoma (BIA-ALCL), a rare T-cell malignancy positive for CD30, arising in the capsule located around the implant. Still, it is uncertain how strong the association between them is, the estimated incidence varying between 1:86,029 and 1:2,207. The aim of this review is to assess the safety of each breast implant type for developing BIA-ALCL. **MATERIALS AND METHODS:** Articles between 2020 and 2024 from PubMed database were selected, using the keyword "BIA-ALCL". Inclusion criteria consisted of: articles to be written in English and free full text available, respectively to contain data related to implant types, epidemiology of BIA-ALCL and risk factors. Single clinical cases were excluded from the analysis. The estimated risk and the real incidence of the disease are used to compare the two groups - smooth and textured implants. PRISMA guidelines were used for data synthesis. **RESULTS:** Out of 153 articles, only 17 were eligible for further analysis, representing surveys, case series, respectively reviews. 13 of them found higher incidences of the disease in the groups with textured implants. Dabic et al estimated a 10 year risk of 1 in 250 women in the textured implant group. Cordeiro et al reported a risk between 1/30,000 and 1/2,832 in women with textured implants. Nelson et al emphasized gradual increase in incidence of the disease in the textured implant group, using Kaplan-Meier curves. The remaining 4 articles stated that there does not exist any evidence to prove such correspondence, as data is not sufficient on this topic. **CONCLUSION:** Overall, the relation between textured implants and BIA-ALCL remains uncertain, although most of the articles are in favor of textured implants to represent a risk factor for BIA-ALCL development. The level of evidence is low and more research is needed, considering not only the lack of studies performed on patients with this disease, but also the reduced number of cases that were recorded so far. Moreover, the calculated incidences are variable and do not allow to draw conclusions.

20. **ACHILLES TENDON LENGTHENING: PERCUTANEOUS VERSUS Z-LENGTHENING SURGICAL APPROACH**

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**INTRODUCTION**: Achilles tendon lengthening is performed in numerous pathologies, which supports the need for a thorough surgery plan before proceeding. Two of the most famous surgical techniques on this matter are Percutaneous tendon lengthening, in which tree cuts are made onto the tendon, and Z-lengthening, a more invasive approach, as the tendon is cut in a „Z" shape and sutured back. This review aims to compare those and assess the outcomes in different etiologies. **MATERIALS AND METHODS:** This analysis draws on 14 studies indexed in PubMed and Google Scholar, from 2006 to the present. The employed keywords were: Achilles tendon lengthening, Percutaneous, Z-lengthening. Inclusion criteria encompassed clinical trials discussing the results of Percutaneous or Z-lengthening surgery. The ones discussing Achilles tendon repair, non-surgical approaches, or animal trials were excluded. Data was synthesized through a method of abstraction. PRISMA guidelines were applied, although bias risk was not assessed. **RESULTS:** In patients with Cerebral Palsy, Frederick R. et al. (2006) affirm that there was no significant difference in outcome between the two surgeries, on a medium-term follow-up. For Clubfoot patients, several trials showed the benefits of Percutaneous lengthening as part of the Ponesttie method. Luisella P. et al. (2024) studied tendons undergoing Percutaneous or Z-lengthening, which resulted in no statistically notable variance in tendon thickness. In the case of diabetes mellitus forefoot or midfoot plantar ulceration, Colen L. et al. (2013) conducted a study in which 92% of the patients underwent a Percutaneous lengthening, and the rest had a Z-lengthening. It resulted in a forefoot unloading and reduced risk of ulcer recurrence. **CONCLUSION:** After a negative Silfverskiold test, the surgeon can proceed with any of those two surgeries. The choice stands in considering the cause of tendon shortening and the lower leg bone anatomy. The popular approach for Achilles tendon lengthening in different etiologies is Percutaneous, due to a lower rate of adhesion, pain, scarring, or infection. However, in cases of a platarflexion deformity above 20 degrees, the Z-lengthening becomes the better approach.

**Powerpoint Session**
**CASE REPORTS**

## 01. TESTICULAR SERTOLI CELL TUMOR – A CASE REPORT

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**BACKGROUND**: Sertoli cell tumor (SCT) is a rare sex cord stromal neoplasm counting for approximately 1% of testicular tumors. Microscopic appearance supports classification into one of the three described subtypes: classic, large-cell calcifying and sclerosing – generally with benign behavior. **CASE PRESENTATION:** e present a case of a 33-year-old male admitted to Urology Department for swelling and pain in left testis. Clinical examination revealed a small compact mass, hypoechogenic and hypervascular at ultrasound. Markers for testicular cancer (β-human chorionic gonadotropin, α-fetoprotein, lactic dehydrogenase and alkaline phosphates) were normal. No secondary lesions were identified by computed tomography scan. The patient underwent orchiectomy. Gross examination identified a 1.5 cm nodular, well circumscribed, homogenous white lesion, in the upper pole of the left testis. Histopathology revealed a non-encapsulated tumor proliferation composed of irregular nests or trabeculae arranged in a reduced fibro-hyaline stroma. Tumor cells were polygonal, with eosinophilic or vacuolated cytoplasm, ovoid nuclei, some with indentations, finely dispersed chromatin, and isolated micronucleoli. Three mitoses per 10 high-power fields were highlighted. The neighboring seminiferous tubules preserved normal architecture, with marked spermatogenesis. No angioinvasion or necrosis were found. Immunohistochemistry showed the following profile: positivity for beta-catenin, vimentin and synaptophysin, negativity for inhibin, calretinin, SALL4, CD30, CD117, chromogranin, CK7, CKAE1/AE3; Ki67 index was 10-15%. **CONCLUSION**: Correlation of clinical, biological and morphological features with immunohistochemical profile sustains diagnosis of SCT, considered a benign entity. Criteria for malignancy (size over 5 cm, marked cytological atypia, necrosis, high mitotic activity, lymphovascular invasion, extratesticular extension) were lacking. Testicular SCT is less commonly studied than its ovarian counterpart. Few cases of SCT have been reported in literature, focusing mainly on sclerosing subtype. Therefore, this case report could be considered a "lesson to be learnt" in the training of a student interested in histopathology.

## 02. RECURRENT ANGIOMATOID FIBROUS HISTIOCYTOMA WITH EWSR1 GENE INVOLVEMENT IN A YOUNG WOMAN

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**BACKGROUND**: Angiomatoid fibrous histiocytoma (AFH) is a rare soft tissue tumor affecting mainly the subcutaneous tissue of the extremities and trunk, usually in children, adolescents and young adults without sex predilection. It is currently considered to be a tumor of intermediate malignant potential, with a very low risk of metastasis and a recurrence rate of less than 15%. Treatment usually consists of surgical extirpation. FISH analysis for EWSR1 gene rearrangement may be helpful in diagnosis. **CASE PRESENTATION**: We present the case of a 20-year-old woman who developed a solid soft tissue tumor mass in her left leg measuring 20x12x6m. Surgery was performed in May 2024. On gross examination it had irregular margins and a greyish-brown cut surface with hemorrhagic foci. She also had surgery in the same area in 2016 with a pathological diagnosis of AFH with tumor-free resection margins. This diagnosis was not supported by FISH studies for EWSR1 gene rearrangement at that time. Histopathology and molecular study: The recurrent tumor was consistent with the primary one, both histologically and in terms of tumor cell phenotype, consisting of blood-filled pseudoangiomatous spaces, syncytial sheets, CD99-, EMA- and CD68-positive epitheloid and spindle cells, with a low Ki67 proliferation index (15%) and lymphoplasmacytic infiltrate in the periphery. FISH analysis confirmed the involvement of the EWSR1 gene. The metastatic potential of this recurrent tumor with positive resection margins was highlighted in the pathology report. Close follow-up of the patient and regular imaging studies were recommended. **CONCLUSION**: Based on the results of the two histopathological studies performed by FISH, we diagnosed recurrent AFH, a relatively rare feature in this type of soft tissue sarcoma. This aspect also underlines the peculiarity of this case, as the metastatic ability of the tumor does not depend on the histological features, but on the recurrence propensity. Recurrent AFH may mimic a vascular malformation or an organized hematoma, and therefore the detection of the ESWR1 rearrangement is key to the diagnosis in these cases. In the presence of recurrence, adjuvant radiotherapy and/or chemotherapy should also be considered.

### 03. STEINERT'S MYOTONIC DYSTROPHY: PROGRESSIVE MUSCLE WEAKNESS IN A YOUNG ADULT

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**BACKGROUND**: Myotonic dystrophy type 1 (Steinert's disease) is an autosomal dominant neuromuscular genetic disorder with multisystem involvement and phenotypic variability. The disease is characterized by myotonia, progressive muscle weakness, and cardiac and respiratory complications, significantly impacting life expectancy. **CASE PRESENTATION:** A 28 year old male patient from a rural area, with no known personal medical history, presented with a 2-year history of progressive muscle weakness, predominantly in the distal limbs, associated with difficulty walking and climbing stairs. He reported bilateral muscle stiffness in his hands, with difficulty releasing objects after grasping, which improved with repeated muscle contractions and relaxations. Family history was significant: the patient's father had cataracts at age 35, and his paternal uncle had gait disturbances and died suddenly at age 42. Clinical examination revealed flaccid tetraparesis, symmetric muscle atrophy, spontaneous and provoked myotonia, and preserved deep tendon reflexes. Electromyography confirmed myotonic discharges, and brain MRI showed white matter changes. Ophthalmologic evaluation revealed bilateral early-stage cataracts. Based on clinical and paraclinical findings, the diagnosis was myotonic dystrophy type 1 (Steinert's disease), associated with cataracts and mild intellectual disability. **CONCLUSION:** \Steinert's myotonic dystrophy is a progressive multisystem genetic disorder with no curative treatment. Patient management focuses on genetic counseling, symptomatic treatment, and prevention of cardiopulmonary complications. The prognosis is guarded, with a high risk of sudden death and respiratory failure. The disease's progression leads to disability and reduced life expectancy.

### 04. A DOUBLE-EDGED STREAM: BILATERAL VESICOURETERAL REFLUX AND URETER DUPLICATION IN A PEDIATRIC CASE- A BATTLE AGAINST RECURRENT INFECTIONS AND CHRONIC KIDNEY DECLINE

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**BACKGROUND**: Vesicoureteral reflux (VUR) is the result of abnormalities of the ureterovesical junction. Reflux is prevented by the presence of an adequate submucosal ureter within the bladder, which acts as a passive one-way flap valve. Primary vesicoureteral reflux is due to a short submucosal tunnel and enlarged ureteral orifice. It can be either asymptomatic, or associated with urinary tract infections (UTIs), possibly resulting in renal scars with progressive chronic kidney disease in the context of reflux nephropathy. The causes are unknown, however it has a strong genetic component, being more frequently seen in boys than girls (29% vs 14%), having a tendency of developing higher grades of VUR during infancy and it may also occur in congenital abnormalities, such as ureter duplication. **CASE PRESENTATION:** A 2-year-old boy is admitted for nephrologic evaluation, having a history of two documented UTIs at five months and one year of age, caused by multi-resistant Escherichia coli. We also note recurrent febrile episodes over the past four months, associated with upper respiratory tract infections. Clinically he presents pale mucous membranes, congenital phimosis with fibrotic ring and a speech development delay. Left renal hypodysplasia with compensatory hypertrophy of the right kidney was noted on ultrasound, with poor corticomedullary differentiation. A retrograde voiding ureterocystography was performed, which confirms the suspicion of vesicoureteral reflux (VUR) grade 2 on the left side. Antibioprophylaxis with Epitrim was recommended. Subsequent scintigraphy with DTPA and DMSA confirms a hypoplasic left kidney, retaining minimal function at 7.8%. Considering the recurrent UTIs and installation of hypertension, left nephrectomy was performed, during which a uretheral duplication is discovered. The histopathological examination results indicate glomerular sclerosis and chronic inflammation in the context of a small, scarred kidney. Over a span of 1 year, the child presented with newer episodes of UTIs, therefore another voiding ureterocystography was performed, showing VUR grade II on the right single kidney. Subsequently, another scintigraphy is performed, which shows a net scarred right kidney with cortical interruption at the superior pole and the middle-external third. Currently, he is still under observation, and the results of a new cystoscopy are awaited. **CONCLUSION:** Despite therapeutic interventions, including antibiotic prophylaxis, the risk of renal deterioration remains high in our patient, especially given the newly established reflux on the right kidney. This case underscores the critical need for ongoing monitoring and management in children with complex urinary anomalies to mitigate long-term renal impairment. A multidisciplinary approach involving nephrology and urology specialists is essential to optimize outcomes and consider potential surgical options, such as corrective procedures or transplantation, in the event of progressive renal failure. The importance of patient education and regular follow-ups cannot be overstated in such multifaceted cases.

## 05. TAKOTSUBO SYNDROME: HOW DOES EMOTIONAL DISTRESS TRANSLATE INTO PHYSICAL CARDIAC DYSFUNCTION?

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**BACKGROUND**: Takotsubo syndrome, commonly referred to as "broken heart syndrome," is an acute reversible cardiomyopathy triggered by a surge of catecholamines, typically following a significant psycho-emotional stress. Clinically, it mimics acute coronary syndrome, presenting with chest pain and ST-segment elevation, but without arterial obstruction. Although complications such as arrhythmias may arise, with accurate diagnosis and timely therapeutic interventions, most patients experience full recovery within 3 to 4 weeks, indicating a favorable prognosis. **CASE PRESENTATION;** A 67-year-old female patient was admitted in the emergency department with severe chest pain, triggered by significant psycho-emotional stress. Her medical history included third-degree hypertension and recurrent gastrointestinal issues. Upon admission, she was hypotensive (91/56 mmHg). The electrocardiographic (ECG) examination revealed ST-segment elevation in leads V2 through V6, raising concern for acute coronary syndrome. Laboratory tests showed increased cardiac biomarker values, with troponin levels at 36 ng/L and creatine kinase-MB at 58 U/L. The cardiac ultrasound revealed apical ballooning with akinesia, a non-dilated left ventricle, septal hypertrophy, an ejection fraction of 40% and a mild mitral regurgitation. To rule out coronary artery disease, angiography was performed, which showed no obstructive lesions but revealed a muscular bridge with 75% systolic compression on the left anterior descending artery. The absence of significant obstructions confirmed the diagnosis of Takotsubo syndrome. Following the angiography, the patient developed cardiogenic shock, with a systolic blood pressure of 50 mmHg. Immediate treatment included fluid resuscitation and inotropic support with Dobutamine and Norepinephrine. At discharge, she was advised to undergo cardiovascular rehabilitation. The treatment during this time proved effective in supporting her recovery. One month later, follow-up echocardiography revealed a global longitudinal strain of 15.4%, indicating mild systolic dysfunction at the left ventricular apex, while the left ventricular ejection fraction remained normal, reflecting adequate overall heart function. **CONCLUSION:** This case highlights the intricate connection between emotional stress and cardiac health. Early recognition and prompt management of Takotsubo syndrome are essential to preventing life-threatening complications like cardiogenic shock and ensuring a swift, full recovery.

## 06. NAVIGATING THE CHALLENGES OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS ADMINISTRATION IN CARDIAC PACIENT UNDER ANTICOAGULANT THERAPY

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**BACKGROUND**: Direct oral anticoagulants (DOACs) are increasingly used for anticoagulation therapy due to their favorable safety profile and lower risk of bleeding compared to traditional anticoagulants. However, the concomitant use of non-steroidal anti-inflammatory drugs (NSAIDs) can lead to rare complications, such as NSAID-induced enteritis, which may exacerbate bleeding risks, particularly in vulnerable populations. **CASE PRESENTATION:** A 70-year-old patient was admitted to the emergency department presenting with marked asthenia, dizziness, significant lumbar pain, generalized abdominal discomfort and dark semi-solid stools, with symptom onset 72 hours prior. The patient had been self-medicating with non-steroidal anti-inflammatory drugs (NSAIDs) for lumbar pain relief over the preceding two weeks. Medical history included permanent atrial fibrillation and NYHA class II chronic heart failure, managed with direct oral anticoagulant (Rivaroxaban) and other medications. Physical examination revealed an altered general state, obesity, pallor and diffuse abdominal tenderness. Laboratory findings indicated severe anemia (hemoglobin 9.8 g/dL), leukocytosis, and positive occult blood tests. Within 48 hours of admission, hemoglobin levels declined to 7.7 g/dL. Upper gastrointestinal endoscopy demonstrated multiple non-bleeding petechiae in the gastric mucosa, while video capsule endoscopy identified four superficial erosions in the proximal small intestine, suggesting NSAID-induced enteritis. A computed tomography scan showed no evidence of active gastrointestinal bleeding and colonoscopy ruled out significant mucosal lesions. Therapeutic management focused on correcting anemia and optimizing cardiac function. The pharmacological regimen included Carvedilol for heart rate control, Ramipril for heart failure management and Furosemide for fluid overload. A proton pump inhibitor was prescribed for gastroprotection due to the chronic use of NSAIDs. Following a further drop in hemoglobin, the patient received a blood transfusion. One week post-discharge, hypochromic microcytic anemia was identified and treated with iron supplements and anticoagulation therapy with Apixaban was cautiously reinitiated after stabilization. Subsequent follow-up indicated favorable evolution, with normalization of hemoglobin levels and overall improvement in health status. **CONCLUSION:** This case underscores the rare incidence of NSAID-induced enteritis in a patient on DOACs, highlighting the necessity for vigilant monitoring and management in elderly patients with multiple comorbidities, particularly when co-administering NSAIDs and anticoagulants.

## 07. THE EARLY BIRD CATCHES THE WORM - A COMPLICATED CASE OF CROHN'S DISEASE

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**BACKGROUND**: Crohn's disease is a chronic relapsing inflammatory bowel disease causing inflammation anywhere in the digestive tract. Being a life-long disease, it often leads to complications such as strictures, perianal fistulas, entero-enteric fistulas and appendicular plastrons. Patients at risk of unfavorable evolution are smokers, those with ileal evolving, perianal disease and those with stricturing or penetrating disease. **CASE PRESENTATION**: We present the case of an 18-year old male, current smoker, recently diagnosed with an inflammatory phenotype of ileo-colonic Crohn's disease, on Budesonide treatment. He was admitted to the Gastroenterology Department of "St. Spiridon" County Clinical Emergency Hospital Iasi, a tertiary referral center, for intense abdominal pain in the right iliac fossa. Laboratory analysis showed thrombocytosis, iron deficiency anemia and inflammatory syndrome. On physical examination, the patient was malnourished, the abdomen was tense, presenting pain both spontaneously and on superficial palpation of the right iliac region. Imaging evaluation (abdominal and pelvic computed tomography) showed ileitis and an abscess in the right iliac region for which he was transferred to the Surgery Department. The patient underwent a diagnostic laparoscopy that showed a pelvic inflammatory block and therefore ileostomy and drainage have been performed, followed by antibiotic treatment with Ciprofloxacin. Soon after that, the antibiotic was replaced by Metronidazole and Azatioprine with a favorable subsequent evolution. On the gastroenterology reevaluation, the treatment was changed into biologic therapy represented by Ustekinumab, with a promising evolution so far. **CONCLUSION:** This case dares to indicate that Crohn's patients who present multiple risk factors for an unfavorable outcome at the onset of the disease still manage to show good progression of the condition if they are met with proper surgical management and advanced biological therapy. This is yet another strong argument in favor of early surgical interventions in inflammatory bowel syndromes as they seem to be able to modify the natural history of the disease.

## 08. APPROACHES FOR HANDLING AORTIC VALVE REPLACEMENT COMPLICATIONS

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**BACKGROUND**: Bicuspid aortic valve (BAV) is one of the most common congenital cardiovascular abnormalities, predisposing patients to developing aortic valve disease or even infective endocarditis. The Bentall procedure is an efficacious surgical intervention in severe cases. Nonetheless, the patient might face life-threatening post-operative complications. Therefore, maintaining INR values above 2.5 is essential, as is establishing chronic oral anticoagulation, indispensable for the long-term prevention of cardioembolic events. **CASE PRESENTATION:** We are presenting the case of a 29-year-old male patient diagnosed with BAV, accompanied by severe aortic regurgitation and an ascending aortic aneurysm. In 2018, he underwent a successful Bentall procedure. Afterwards, a vitamin K inhibitor (Acenocumarol) was prescribed for oral anticoagulant therapy, with the recommendation to maintain INR values above 2.5. Post-surgery, he developed a complete atrio-ventricular block (AVB) necessitating the implantation of a DDD type pacemaker, along with paroxysmal atrial flutter episodes for which Amiodarone therapy was commenced, while maintaining the anticoagulant regimen. In September 2020, despite following an optimal oral anticoagulant treatment schedule, the patient suffered a middle cerebral artery ischemic stroke, in the setting of subtherapeutic INR values. The patient admitted to having followed a diet rich in green leafy vegetables with high contents of vitamin K, which antagonized the anti-vitamin K anticoagulant. In 2021, following recurrent paroxysmal episodes of facial spasm diagnosed as Jacksonian seizures, Rivotril (Clonazepam) was prescribed. Consequently, due to the preservation of sinus rhythm and the absence of additional atrial flutter episodes observed during subsequent 24-hour Holter ECG monitoring, the Amiodarone treatment was stopped. In order to achieve the target range of 3.0–3.5, the patient was advised to have periodic INR measurements twice a month. **CONCLUSION:** The INR lability of some patients necessitates regular monitoring and dose adjustments of Acenocumarol. Anti-vitamin K medications have a number of interactions, including those with diets based on green leafed vegetables. As previously shown, ischemic strokes and other cardioembolic events are more likely to occur when INR levels are below therapeutic values.

## 09. EYES ON HEMORRHAGIC SHOCK IN A PEDIATRIC PATIENT WITH DUODENAL ULCER

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**BACKGROUND**: Upper gastrointestinal hemorrhage, defined as blood loss from a gastrointestinal source proximal to the ligament of Treitz, is a life-threatening condition, classified into two main categories: variceal and non-variceal bleeding. Non-variceal UGIH, which includes bleeding from duodenal ulcers, is more common and typically results from mucosal damage due to Helicobacter pylori infection or NSAID use. **CASE PRESENTATION:** We report the case of a 15-year-old boy transferred to our clinic from another hospital with the following diagnoses: upper gastrointestinal hemorrhage (UGIH), severe post-hemorrhagic anemia, and acute dehydration syndrome. Two days prior to admission, he experienced "coffee ground" emesis, abdominal pain, dizziness, and melena. He was evaluated at the local clinic, where he received intravenous fluids, metoclopramide, and trimebutine, but his condition worsened, necessitating transfer for further intervention. Upon admission, the patient exhibited a weakened general state and severe pallor, with vital signs indicating tachycardia (HR = 125/min) and hypotension (BP = 102/61 mmHg). Abdominal examination revealed tenderness, with a significant amount of "coffee ground" fluid collected via nasogastric tube. Investigations included blood work-up (showing severe anemia: Hb = 4.6 g/dL), radiographic imaging, which ruled out pulmonary complications, and abdominal ultrasound, showing normal organ structure, but significant meteorism. A multidisciplinary team (pediatrics, general surgery, radiology, and intensive care) evaluated the patient, who underwent an urgent endoscopy, revealing the source of bleeding from a duodenal ulcer approximately 0.5 cm in size. Notably, the histopathological sample confirmed the presence of Helicobacter pylori, with duodenal bulb mucosa showing a regenerative aspect with granulation tissue. This finding was significant, given the patient's age and the rapid development of severe anemia and gastrointestinal bleeding. The patient received red blood cell transfusions, intravenous fluids, and proton pump inhibitors. Initial treatment also included antibiotics targeting H. pylori (amoxicillin/clavulanate and metronidazole) with a favorable outcome, and he was discharged after 12 days. **CONCLUSION:** This case highlights the importance of prompt recognition and a multidisciplinary approach to UGIH in adolescents. The atypical presentation of a bleeding duodenal ulcer in a young patient with significant anemia underscores the necessity for careful evaluation and timely intervention to prevent severe outcomes in the pediatric population.

## 10. ESCHERICHIA COLI MENINGOENCEPHALITIS IN NEWBORNS: A PREDICTABLE DIAGNOSIS OR MEDICAL CHALLENGE?

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**BACKGROUND**: It is vastly known that one of the most frequent gram-negative organisms responsible for causing meningitis in premature newborns is Escherichia coli (E.coli), as follows: the treatment scheme is prone to work its efficacy. But what happens when the infection relapses too soon and in a full-term newborn, after being supposedly correctly treated? Notwithstanding with its reputation as a harmless intestinal inhabitant, this organism can also be a highly versatile pathogen, constantly finding new paths of contamination, possibly causing life-threatening infections, thus highlighting its unpredictability and significance. **CASE PRESENTATION:** The current study reports the case of a 30-day-old female patient presenting with a recurring E. coli infection, after a correctly administered antibiotic treatment. The first signs of the infection were postnatal, the patient being contaminated transvaginally during childbirth. The source of contamination was the mother, who had previously suffered from a urinary tract infection with E.coli in the third trimester of pregnancy. During the first admission, the patient presented with postnatal E.coli sepsis and was treated with the proper scheme of antibiotics, thus resulting in an optimal healing. Despite the apparent recovery, 6 days after the discharge, the patient presented with tonic-clonic seizures to the emergency unit, where a CT scan was performed, revealing a tetraventricular hydrocephalus. The clinical examination on admission showed an altered mental status, a Glasgow score of 8, the patient's opisthotonos position, dyspnea, polypnea and pale mucous membranes. Neurological examination revealed generalised muscle hypotonia, gasping and periods of gaze-fixed apnea and right hemicorporal myoclonus lasting approximately one minute. Laboratory tests, along with the imagistic investigations, confirmed the diagnosis of E. coli meningoencephalitis, anemic syndrome, acute dehydration syndrome and transitory hypoglycaemia. The patient was treated with empirical antibiotics, antifungal, anticoagulant and anticonvulsant medication and oxygen therapy. The patient's evolution was favourable and she responded well to treatment. **CONCLUSION:** In defiance of its seemingly frequent prevalence, the Escherchia Coli infection continues to be a topic of research into neonatal care, as proper treatment may not always prevent a subsequent relapse, hence emphasising the crucial aspect of close post-infection follow-up in order to avoid further complications.

## 11. EXPLORING THE COMPLEXITIES OF DUAL MALIGNANCIES: BRONCHOPULMONARY NEOPLASM AND MELANOMA

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**BACKGROUND**n: It is well established that the risk for a new malignancy is higher in patients who have already survived one or more cancers than in the general population. The increasing incidence of concurrent malignancies, particularly lung cancer and melanoma, presents significant challenges in oncology. These cancers share common risk factors, such as smoking and UV exposure, complicating both diagnosis and treatment. Understanding their interplay is crucial for effective management. **CASE PRESENTATION**: We present the case of a 67-year-old male with a medical history of type II diabetes and hypertension, who was initially diagnosed with bronchopulmonary neoplasm in 2021. Imaging studies revealed a spiculated mass in the upper-posterior segment of the left lung, alongside the presence of an EGFR exon 19 mutation. The tumor exhibited infiltration into adjacent lung tissue and pleura, resulting in the development of multiple miliary nodules and osteolytic lesions. The patient underwent atypical resection of the lingula followed by chemotherapy combined with Osimertinib therapy. During routine follow-up examinations, in March 2024, the patient presented with an indistinct, non-orientable, intensely hypoechoic mass in the left axilla measuring 10.8 x 6.5 x 2.5 cm, which was diagnosed as malignant melanoma. Multiple adjacent nodular formations were observed, some merging, which required elective surgical intervention. The excision revealed substantial infiltration, preventing complete oncologic resection. A second surgical procedure in May 2024 for the axillary tumor demonstrated extensive subcutaneous and nodal involvement, making the complete surgical removal unfeasible. Subsequently, in July 2024, the patient underwent an intervention in the plastic surgery clinic involving the posterior thorax. The procedure involved the excision of the previous scar and the tumor's removal within oncologically safe margins, followed by the creation of a rotational parascapular flap to address the resulting skin defect, along with meticulous dissection and wide lymphadenectomy as a single procedure. The patient has since continued chemotherapy treatment and attends regular follow-up appointments.: **CONCLUSION:** This case highlights the complexity of managing concurrent malignancies and underscores the importance of early diagnosis and tailored treatment approaches. Ultimately, the goal is to improve patient care and outcomes in cancers with overlapping risk factors.

## 12. FROM BLINDNESS TO RECOVERY: A CASE OF SYPHILITIC PLACOID CHORIORETINITIS

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**BACKGROUND**: Ocular syphilis is a rare but serious manifestation of systemic syphilis that can result in significant vision loss if not promptly diagnosed and treated. The estimated prevalence of ocular manifestations among patients infected with syphilis is approximately 0.65%. It can present in various forms, with syphilitic placoid chorioretinitis being one of the most aggressive. Complications such as vasculitis and papillitis further compromise visual outcomes, making early detection critical. This case report highlights the diagnostic and therapeutic challenges in managing syphilitic chorioretinitis in a young adult. **CASE PRESENTATION:** A 27-year-old male presented with a sudden decrease in visual acuity in the right eye, limited to perceiving hand motions, accompanied by reports of a central scotoma, photophobia, and blurred peripheral vision. His medical history included recreational drug use and unprotected sexual encounters, which are significant risk factors for syphilis. Optical Coherence Tomography (OCT) showed disruption of the ellipsoid zone, along with a perifoveal placoid lesion characteristic of syphilitic retinitis. Fluorescein angiography (FA) confirmed active vasculitis and papillitis, while Indocyanine Green (ICG) angiography demonstrated multifocal choroiditis. Serological testing confirmed a diagnosis of ocular neurosyphilis. The patient was treated with intravenous ceftriaxone (2g daily) for 10 days. Follow-up examinations showed significant recovery, with OCT revealing restoration of the ellipsoid zone and regression of the placoid lesion. Visual acuity improved to 5/10 in the right eye, and angiographic findings confirmed the resolution of vasculitis and papillitis. **CONCLUSION:** This case underscores the importance of early diagnosis and aggressive treatment of ocular syphilis to prevent permanent visual loss. Multimodal imaging, including OCT and angiography, played a crucial role in monitoring disease progression and treatment response. Although ocular syphilis is very rare, the rising global incidence of syphilis makes it increasingly important for clinicians to consider its ocular presentations. Multidisciplinary management, including infectious disease consultation and long-term serological monitoring, is vital for ensuring complete disease resolution and preventing recurrence.

## 13. A GENETIC DISEASE HIDDEN BEHIND LIMITED MANIFESTATIONS

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**BACKGROUND**: Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome represents a genetic disorder (with a normal karyotype – 46,XX), which affects the female reproductive system with a frequency of 1 in 4500 newborns. It is characterized by the absence/hypoplasia of the uterus, fallopian tubes and the vagina; meanwhile the ovaries are normally functioning. The external genitalia are normal. Often, the only noticeable symptom is the primary amenorrhea. Just the involvement of the reproductive system classifies the disease in type I, but if are present abnormalities in other parts of the body too, there is a type II syndrome. The genetic causes of MRKH syndrome remain elusive. **CASE PRESENTATION:** 19 years old patient presented to the genetics medical service because of the primary amenorrhea. The hereditary antecedents reveal the death of the paternal grandmother at the age of 50 due to uterine cancer. The antecedents of the patient consist of an operated polydactyly at the right hand and ectopic kidneys diagnosed at age of 14, facts which suggest a genetic disorder. At the clinical examination, it is only observed a short stature (149 cm). Paraclinical, hormonal analyzes were normal, and the karyotype 46,XX without structural chromosomal abnormalities. Imaging investigations showed pathological aspects. Thus, in the MRI scan were discovered: bilateral ectopic kidneys, the absence of the uterus and fallopian tubes, the hypoplasia of the vagina and ectopic ovaries showing follicular cysts. The ultrasound showed normal sized kidneys, without direct images of calculi, but located in the iliac fossa. Therefore, through the disorders at the level of the reproductive system associated with the renal anomalies, the patient is diagnosed with MRKH type II syndrome. It is recommended chromosomal microarray analysis , endocrinological follow-up, psychological counseling, gynecological consult and a surgical treatment for the vaginal hypoplasia. **CONCLUSION:** This case represents a genetic disorder, whose diagnosis can stay hidden because of its limited manifestations. However, the diagnostic is important to know in order to prevent possible complications and to inform the patient about infertility issues.

## 14. COVID-19: A TRIGGER FOR TAKAYASU ARTERITIS

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**BACKGROUND**: Takayasu Arteritis (TA) is a chronic, idiopathic vasculitis affecting the aorta and its main branches, with an incidence of 1.2-2.6 cases per million per year in Western populations, primarily affecting young females. The inflammatory process of the vessel walls can eventually lead to stenosis, occlusion, and aneurysm formation. While the etiological factors are not fully understood, an autoimmune basis combined with genetic and environmental influences has been suggested.: **CASE PRESENTATION:** This case report describes a 30-year-old female who suffered a mild form of COVID-19 in January 2022. After recovery, the patient gradually developed fatigue and anterior cervical pain, accompanied by elevated biological inflammatory markers (CRP = 20 times above normal values). Over the next three months, multiple serological, biological, and imaging investigations were conducted, including abdominal, thoracic, and head CT scans, which excluded thyroiditis, infections, and malignancy. After several failed attempts at antibiotic therapy, treatment with glucocorticoids was initiated, leading to prompt resolution of symptoms and a decrease in CRP levels. However, reducing the prednisone dose below 10 mg/day resulted in a return of the inflammatory syndrome. In June 2022, repeat head and thoracic CT scans revealed thickening of the parietal walls of the thoracic aorta, subclavian arteries, and common carotids, suggesting the possibility of vasculitis. An Angio-MRI was performed, confirming the diagnosis of Takayasu Arteritis and identifying the anterior cervical pain as carotidynia. Treatment with Tocilizumab was initiated, resulting in full clinical and biological remission, allowing for safe withdrawal from glucocorticoids. **CONCLUSION:** In conclusion, SARS-CoV-2 infection may act as a trigger for rare autoimmune disorders such as Takayasu Arteritis, providing further insight into the long-term effects of COVID-19.

## 15. BEYOND THE THYROID - UNCOVERING RARE OVERLAP OF CELIAC DISEASE AND AUTOIMMUNE THYROIDITIS

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**BACKGROUND**: Autoimmune thyroiditis (AIT) may be associated with several other autoimmune conditions such as pernicious anemia or vitiligo. However, the association with celiac disease (CD) is less well-documented. In the absence of typical clinical symptoms, the co-occurrence of CD and AIT can be overlooked, as demonstrated by our presented case. **CASE PRESENTATION**: We describe the case of a 64-year-old female patient who presented with three recent episodes of persistent diarrhea and weight loss, and negative bacteriological and imaging investigations, including gastric endoscopy with antral biopsy, colonoscopy, and abdominal CT. Due to her history of hypothyroidism and severe dyselectrolytemia, she was referred to the Endocrinology Department. Upon admission, the patient exhibited asthenia, hypoanabolic syndrome (BMI of 17.5 kg/m2), and inferior limb edema. Biological data confirmed autoimmune thyroiditis with hypothyroidism (TSH=27 µUI/ml, fT4=0.7 ng/dl, ATPO >1000 UI/ml, and ATg >3000 UI/ml), inflammatory syndrome, severe vitamin D deficiency (<3 ng/ml), and severe metabolic disturbances (hypoalbuminemia, hypokalemia, hyponatremia, hypocalcemia, and acidosis). Markers for digestive neoplasia and neuroendocrine tumors were negative. Additional findings revealed osteoporosis and deep vein thrombosis with decreased tolerance to coumarin anticoagulants (INR 7.32) which imposed heparin therapy. CD was suspected, sustained by positive antigliadin antibodies, however, the patient refused duodenal biopsy. Substitutive treatment with levothyroxine, vitamin D supplementation, and a gluten-free diet were started, which led to rapid and persistent improvement of the general status and biological data. **CONCLUSION:** Undiagnosed CD in patients with AIT can determine severe metabolic disturbances due to the vicious circle of malabsorption. Low LT4 absorption imposes attentive substitution dosage. Although current guidelines do not recommend routine screening for CD in AIT patients, the presented case highlights the importance of considering CD in patient populations with metabolic disturbances, which may be paucisymptomatic and/or with late manifestation. Early identification and management, even in the absence of classical CD symptoms, are critical for preventing complications.

## 16. URINARY LITHIASIS AND OBESITY: MONITORING LITHIASIC PATIENTS WITH OBESITY

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**BACKGROUND**: Obesity, a condition defined by an excess of body fat, affects over 1 billion people globally, posing a significant health problem. One of the complications associated with obesity is urinary lithiasis, which affects approximately 115 million people worldwide. Obesity increases the risk of lithiasis due to raised levels of calcium oxalate and uric acid, common stone-forming substances. Furthermore, obesity complicates diagnostic procedures, reduces the success rate of treatment and increases the chances of having more episodes of urinary lithiasis.: **CASE PRESENTATION:** At the "Dr. C.I. Parhon" Clinical Hospital in Iasi, Romania, the Program for Evaluating and Monitoring Lithiasic Patients with Obesity (PELO) was initiated to observe and treat these interconnected issues. This program targeted patients who had experienced an episode of urinary lithiasis within the past three years. Alongside personalized diets designed by a dietitian considering each patient's specific stone composition, the program included regular monitoring. Patients kept track of their meals, water intake, and weight, providing information like blood pressure and urinary pH. We have invited 732 patients to enter this program, 241 of whom agreed to meet with a dietitian.The rest of 491 patients have been given a brochure with general information about lithiasis and obesity. Out of the 241 patients, 157 have abandoned the program for different reasons within the first few weeks, out of the rest of 84 patients, 67 have finished the whole 3-month regimen. 35 patients that finished the program came back for a follow-up after 2 years and not only were they at a normal weight, but they also hadn't experienced another lithiasic episode. **CONCLUSION:** The PELO program demonstrated that sustained monitoring and individualized diet can significantly reduce the chances of urinary lithiasis relapse in obese patients. Patients who actively engaged in the program showed improvements in their overall health, weight management, and lithiasis prevention. The results suggest that the success relies on patient commitment and cooperation, with those that finished the program experiencing fewer lithiasis episodes and improved quality of life. Overall, the program offers a promising approach for managing lithiasis in obese patients.

## 17. COMPLEX MYOCARDIAL REVASCULARIZATION: A VARIANT OF THE "II"-GRAFT TECHNIQUE

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**BACKGROUND**: Ischemic cardiomyopathy (ICM) refers to a loss of the heart's pump function due to myocardial damage brought upon by decreased oxygen supply. Coronary artery disease (CAD) is the most common cause of ICM. In patients with complex multivessel CAD, when stenoses exceed 75%, coronary artery bypass graft (CABG) surgery is the gold-standard treatment. Arterial conduits are preferred when feasible, given their superior long-term patency rates. However, venous conduits, particularly the great saphenous vein (GSV), remain important alternatives in elderly patients when arterial grafts are unavailable or insufficient. **CASE PRESENTATION:** We present the case of a seventy-four-year-old female patient, known with stage three hypertension and chronic ICM, who had previously suffered an acute myocardial infarction. The patient requested an extensive cardiovascular evaluation, presenting with chest pain and low-effort dyspnea. Coronary angiography objectified significant lesions: 70-80% stenosis of the left anterior descending artery (LAD), 80% stenosis of the circumflex artery (Cx) and occlusion of the posterior descending artery (PDA). Conduits were difficult to obtain, as both GSVs were varicose and the radial arteries presented significant lesions, with the Allen test yielding inconclusive results. A small segment of the right GSV could be harvested and was utilized alongside the internal mammary arteries to perform an on-pump triple CABG. The right internal mammary artery was harvested and anastomosed end-to-side to the skeletonized left internal mammary artery to form a "Y"-graft. The left branch of the "Y" was grafted onto the LAD and the right onto the Cx. The GSV conduit was anastomosed proximally to the right branch of the "Y" and distally to the PDA. The result was a modified version of a "π"-graft. The patient had an uneventful recovery and was discharged with dietary recommendations and a prescription for beta-blockers, loop diuretics and antiplatelet medication. **CONCLUSION:** The selection of conduits in CABG surgery is a crucial aspect that significantly impacts patient outcomes. While venous conduits have lower patency compared to arterial grafts, hybrid conduit techniques, such as the application of "Y"- or "π"-grafts utilizing bilateral internal mammary arteries and the GSV, offer innovative solutions for complex clinical cases.

## 18. ACUTE MANAGEMENT OF AORTOESOPHAGEAL FISTULA: THORACIC ENDOVASCULAR AORTIC REPAIR AND ESOPHAGEAL STENTING

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**BACKGROUND**: An aortoesophageal fistula (AEF) is an abnormal connection between the esophagus and the descending thoracic aorta. It can be primary, when caused by an aortic aneurysm, and secondary, as a result of esophageal malignancies, foreign bodies or postoperative complications. AEF is a rare cause of upper gastrointestinal hemorrhage, often deadly; according to current literature 75% of patients that undergo surgical treatment die, and left untreated mortality is 100%. Most patients present with Chiari's triad, characterized by midthoracic pain, a sentinel episode of hematemesis and exsanguination after a symptom-free interval that can range from hours to months. Diagnosis is usually made by upper gastrointestinal endoscopy or computed tomography, but it can prove difficult during the asymptomatic stage or when confused for other benign causes, such as Mallory-Weiss tear, if the patient improves after a period of hematemesis. **CASE PRESENTATION:** We present the case of a sixty-three-year-old patient known with stage three hypertension, type two diabetes and a descending aortic aneurysm. The patient was transferred from the emergency department with massive hematemesis associated with an AEF. Routine lab tests showed severe anemia with a hemoglobin of 6g/dl, but no signs of infection. Computed tomography angiography (CTA) revealed an aneurysm 25mm distal from the origin of the left subclavian artery, measuring 26/27/43mm. It compressed the esophagus in the middle third and bleeding was visible. Thoracic endovascular aortic repair with a 32mm endoprosthesis was performed to exclude the aneurysm and stop the gastrointestinal hemorrhage. An esophageal stent was implanted to further stabilize the lesion and to lower the risk of mediastinitis. A control CTA done after three months revealed periesophageal fibrosis, but no signs of an AEF. An endoscopy was also performed and objectified a large area of fibrous tissue at the level of the lesion, but the esophageal lumen was permeable **CONCLUSION**: AEFs are uncommon causes of gastrointestinal hemorrhage and diagnosis can be elusive. Patients deteriorate rapidly, especially in the advanced stages. Immediate surgical intervention is crucial for preventing exsanguination. Open surgery carries high risks of developing other complications due to malperfusion and blood loss. In eligible patients the endovascular approach should be preferred.

## 19. UTERINE TORSION AT TERM – AN UNPREDICTABLE AND PERILOUS EVENT

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**BACKGROUND**: Uterine torsion is defined as the abnormal rotation of the uterus exceeding 45° around its longitudinal axis. The rare condition is often associated with multiple uterine fibroids. Most women diagnosed with fibroids will have normal pregnancies, but a higher obstetrical risk was reported, the worst complication being placental abruption. **CASE PRESENTATION:** We present a 31-year-old woman's evolution during her first pregnancy. At routine preconceptual ultrasound (US) scan, the presence of several relatively small, subserous and intramural fibroids, was noted. She was favorable counseled about a future pregnancy outcome. The late first-trimester prenatal screening tests for chromosomal abnormalities were consistent with a low-risk pregnancy. All prenatal US scans showed normal fetal anatomy and growth, and a substantial gradual increase in the size and volume of all fibroids. The pregnancy evolved uneventful until term. The patient was admitted to the hospital at 37 weeks gestational age, having mild prelabor uterine contractions. After a 6 hours surveillance, the uterine tonus became abnormally increased, the patient had abdominal and back pain, without cervical changes and the cardiotocography showed sudden, severe and persistent fetal bradycardia. An emergency cesarean section (CS) was decided. Intraoperative, an 1800 torsion of the uterus was discovered. An extremely rapid transversal low posterior incision was performed, between the uterosacral ligaments, to extract the critically endangered fetus. After restoring the normal position of the corpus and performing the uterine suture, although there are still controversies about performing myomectomy during CS, all subserous fibroids were successfully removed. Both mother and child had a full recovery and were discharged after 4 days. **CONCLUSION:** Normally, the uterine ligaments have stabilizing effects during pregnancy. We present a rare case of complete uterine torsion with details from the preconceptual period, during pregnancy, intraoperative features, and short and long-term follow-up. The preoperative diagnosis is particularly difficult, even with advanced imaging techniques such as US. The major event has nonspecific and often subtle clinical and imagistic signs. Although uterine torsion is a rare complication, its occurrence can lead to devastating consequences if not early recognized and timely intervened. In the case presented, both mother and newborn had a favorable outcome.

## 20. MODIFIED T-CONFIGURED DUAL STENT TECHNIQUE FOR A COMPLEX BASILAR TIP ANEURYSM

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**BACKGROUND**: Aneurysmal subarachnoid hemorrhage is the major cause of premature mortality in neurovascular pathology. Cerebral arterial bifurcation apexes represent the most prevalent site of aneurysm formation due to maximal hemodynamic stresses. Minimally invasive treatment of wide-necked complex bifurcation aneurysms frequently requires double stent-assisted coil embolization in various configurations. The T-configured dual stent technique involves a nonoverlapping implantation of two stents to protect the daughter vessels of the bifurcation, followed by coiling of the aneurysm. **CASE PRESENTATION:** We present the case of a forty-four-year-old patient admitted to our emergency department in an unconscious state with mild nuchal rigidity. The family declared a history of hypertension with no regular treatment and severe cephalalgia with sudden onset twenty-four hours prior to admission. Cranio-cerebral computed tomography (CT) revealed mild hydrocephalus and subarachnoid hemorrhage predominantly located in the basal cisterns and the left Sylvian fissure. CT angiogram depicted a complex basilar tip aneurysm. Firstly, an external ventricular drain was implanted. The following day, the three-dimensional digital subtraction angiography (DSA) reconstruction showed a large complex basilar tip aneurysm with two lobes in an hourglass anatomical configuration and a very wide neck involving both posterior cerebral artery junctions, originating from an asymmetric relation with the aneurysm sac. Due to the complex anatomical configuration and the presence of multiple perforating arteries in this region, a slightly modified T-configuration stent-assisted coiling was proposed with continuous heparinization during the procedure. Final DSA images demonstrated a "Raymond-Roy class I" aneurysm occlusion with no neck remnant, coil herniation, clot formation or branch occlusion, and with no perioperative complications. The patient's evolution was progressive with partial recovery of gait difficulties, dizziness and nystagmus at two weeks. **CONCLUSION:** The double stent-assisted coiling technique is a feasible, effective and relatively safe endovascular procedure for the treatment of complex wide-neck cerebral aneurysms located at different bifurcation sites according to current medical literature. However, aspects such as the anatomy, angulation and take-off of the vessels play a crucial role in choosing the appropriate technique. The challenge of this case was to adapt the T-configuration stent-assisted coiling technique for favourable clinical outcomes and satisfactory results considering the unique features of the aneurysm.

## 21. AN INCIDENTAL FINDING OF A AVM IN A PEDIATRIC PATIENT WITH A SUBARACHNOID HEMORRHAGE

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**BACKGROUND**: Cerebral arteriovenous malformations (cAVMs) are a type of congenital vascular lesion, in which arterial feeders shunt blood directly into the venous system of the brain via a tangle of pathological vessels. They carry risk of causing clinical manifestations such as intracerebral hemorrhages, seizures, neurological deficits and migraines. Diagnosis is based on imaging modalities such as angiography, MRI and CT. Treatment modalities include conservative therapy, microsurgical resection, stereotactic radiosurgery, endovascular embolization and various multidisciplinary approaches. We aim to introduce the case of a pediatric patient with an intracranial hematoma caused by a ruptured cAVM which was discovered intraoperatively due to imaging modality limitations, and evaluate her recovery and long-term outcomes. **CASE PRESENTATION:** A 10-year-old female has presented to the ER after losing consciousness at home. A CT scan of her head revealed the presence of an intracerebral hematoma. An increase in the size of the hematoma in the following hours led to significant neurological and vital deterioration. Emergent temporo-parietal craniotomy was performed. Intraoperatively, a cAVM was discovered and successfully excised. Postoperatively, the patient demonstrated gradual improvement of her neurological condition. Her parents refused the use of MRI or angiography in order to assess the scope of the cAVM's venous drainage network and arterial feeders. The patient's follow-up checks over the course of six months showed satisfactory neurological improvement. **CONCLUSION:** While intracranial hematomas can be reliably treated via surgical evacuation, the intraoperative discovery of underlying cAVMs can prove to be challenging, as it significantly alters the scope and course of the operative intervention and thus endangers the patient. Further studies and recommendations for surgical staff in such an event should be issued by the neurosurgical community in order to minimize morbidity in a relatively limited number of high-risk cases.

## 22. EXPLORING RETROPERITONEAL LIPOSARCOMAS: A JOURNEY THROUGH DIAGNOSIS AND THERAPEUTIC APPROACHES

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**BACKGROUND**: Liposarcomas (LPS) represent a subtype of soft tissue sarcoma (STS), heterogeneous tumors of mesenchymal tissue derived from abnormal adipocytic differentiation, with a prevalence of approximately 20% of STS and 1% of all malignancies. LPS comprise of four main histological categories: well-differentiated (WDL), dedifferentiated (DDL), pleomorphic (PL) and myxoid (ML), each one requiring different clinical approaches and treatment courses. ML characterize 10% of STS (peak age of 50 y.o.), with various localisations like the retroperitoneum, extremities or mediastinum. There is no apparent symptomatology and first clinical manifestations start when the tumor adheres and invades adjacent structures (blood vessels, viscera, nerves). Therefore, this case report aims to analyze ML's diagnosis, patient management, and treatment. **CASE PRESENTATION:** 54-year-old male patient is admitted to the Emergency Department accusing perianal pain and fever for the last two days. Physical examination revealed a perianal abscess, which followed immediate surgical treatment, and a painless, irreducible, solid, non-pulsatile mass was noticed under Malgaigne's line. Medical history suggested its presence three years ago. Further investigations (contrast-enhanced computed tomography) revealed a large retroperitoneal mass measuring 117/131/203mm with high indication of LPS. The multilobulated growth included both right inferior epigastric artery and right deep circumflex iliac alongside the pelvic iliac segment of right ureter, leading to mild pelvicalyceal distension. After a J-J stent placement, the multidisciplinary surgical team opted for median laparotomy extended to the root of the thigh, inguinal ligament transection and radical tumor resection. Right-sided orchiectomy due to spermatic cord invasion was performed and antero-lateral abdominal wall reconstruction concluded the surgical procedure. Besides lymphorrhagia (200ml/24h, treated with 10% povidone-iodine instillation), there were no post-surgery complications. Pathology examinations confirmed low-grade ML staging pT4N0 G2 L0V0Pn0 and consequently the patient underwent six cycles of chemotherapy (doxorubicin, ifosfamide) alongside mesna, with medical follow-ups still ongoing. **CONCLUSION:** Clinical and paraclinical particularities include the absence of specific symptoms, incidental diagnosis, extensive tumor size and an interdisciplinary approach. Different histological subtypes suggest LPS might have various presentations and outcomes, but consistent therapy can optimise patient's life quality.

## 23. COMPLEX SURGICAL MANAGEMENT OF THORACIC SPINE TRAUMA – HIGH-SPEED BICYCLE ACCIDENT AFTERMATH

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**BACKGROUND**; Spinal trauma resulting from high-speed accidents can present with complex challenges that require immediate and specialized surgical interventions. This case report highlights the management of a patient who sustained multiple thoracic vertebral fractures and complications, emphasizing the decision-making process, surgical approach, and postoperative care in achieving optimal outcomes. **CASE PRESENTATION:** A 44-year-old duch male was admitted to the Orthopaedic Surgery department in FN Brno-Bohunice following a high-speed bicycle accident, presenting with back pain, left pneumothorax, and desaturation. Initial X-Ray imaging, confirmed by following CT-scan revealed multiple thoracic vertebral fractures (T4, T7, T8, T9), a sternal fracture, bilateral fluidothorax, and an epidural hematoma extending from C2 to T11. The patient was stabilized with a chest drain and prepared for urgent spinal surgery. On 03.08.2024, a T4-T11 posterior spinal stabilization and T8 laminectomy were performed, followed by a second surgery, on 09.08.2024, involving a trans-thoracic approach for a T8 somatectomy and anterior fusion from T7 to T9. Postoperative recovery was stable, with no significant complications noted, and the patient was discharged and repatriated 14 days post-admission. **CONCLUSION:** This case demonstrates the effective multidisciplinary management of complex thoracic spinal injuries resulting from trauma in which early diagnosis, timely intervention, and surgical precision contribute to patient's successful recovery. This case report highlights the importance of a well-coordinated approach in managing severe spinal trauma to optimize patient outcomes and minimize complications.

## 24. SURGICAL INSIGHTS INTO RECURRENT FORAMEN MAGNUM MENINGIOMA: A CLINICAL CASE

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**BACKGROUND**: Foramen magnum is an anatomical structure belonging to the occipital bone, that functions like a passage between the cranial box and the vertebral canal, allowing the passing of the spinal bulb, which is continued by the spinal cord, the two vertebral arteries and the accessory nerves. Meningioma is the most common type of primary brain tumour, accounting for approximately 30 percent of all brain tumours. Given the importance of the neurovascular structures at this level, a foramen magnum injury requires an appropriate and complex management, aspects of which are illustrated by the following case. **CASE PRESENTATION:** A 55-year-old patient with multiple associated cardio-pulmonary and metabolic comorbidities and a known meningioma of the foramen magnum that was diagnosed and operated on two years ago, later recurred, was reoperated on, and treated with postoperative radiotherapy. The patient was hospitalised with intracranial hypertension syndrome that developed a month before arrival, with progressive worsening and diplopia. The clinical picture included hypoesthesia in the right hemibody and paresis of the left hypoglossal nerve, which developed two years ago. MRI imaging with contrast, revealed a recurrent tumour at the foramen magnum, left paramedian, exerting a mass effect on the medulla, left cerebral hemisphere, and the spinal cord, while embedding the left vertebral artery. Surgery was performed, aiming of tumour resection and decompression of adjacent nervous structures. During surgery, a well vascularised, broad dural insertion mass that is relatively bounded by the surrounding structures, predominantly left-sided, with increased consistency and is identified. A subtotal resection is performed, preserving the residual tumour that envelops the left vertebral artery. Postoperatively, the intracranial hypertension syndrome resolved. **CONCLUSION:** In the therapeutical management of foramen magnum lesions, special attention must be given to preserving the vital neurovascular structures. Preoperative preparation includes careful study of the lesion's relationship with adjacent anatomical structures. The resection of the tumour must ensure the decompression of the nervous structures and a favourable long-term prognosis, while preserving the integrity of nervous and vascular structures. Both the modern technology for localisation and resection, as well as adjuvant treatment methods contribute to achieving good long-term outcomes in foramen magnum formations.

## 25. SURGICAL MANAGEMENT AND RECONSTRUCTION OF LOWER LIP WITH SQUAMOUS CELL CARCINOMA

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**BACKGROUND**: Squamous cell carcinoma is a common type of skin cancer that originates in the squamous cells of the skin's outer layer. It often appears as a scaly patch, sore, or lump, and is primarily caused by prolonged sun exposure. While squamous cell carcinoma is generally treatable, it can become invasive and spread to other parts of the body if not treated early. **CASE PRESENTATION:** A 72-year-old male patient presented with a tumorous lesion on the lower lip, close to the right angle of the mouth. The lesion was reddish-brown, vegetative in appearance, and had been previously diagnosed as malignant by the Dermatology department. At the time of his presentation to the outpatient clinic, the patient was stable and showed no significant pathological changes. Surgical intervention was planned to excise the tumor with an oncological safety margin of 2 cm around the lesion. Due to its location and infiltration into surrounding tissue, both the orbicularis and buccinator muscles had to be severed during the excision. Reconstruction of the resulting defect involved the use of two musculo-muco-cutaneous flaps. The first flap was rotated from the upper lip, with consideration of the vascular supply from the inferior labial artery to ensure adequate blood flow. The second flap was created by advancing tissue from the left side of the lower lip and part of the cheek, achieved through a series of deep triangular incisions. The muscle and mucosal layers of the lower lip were sutured to restore its shape, followed by closure of the outer defect using simple discontinuous sutures. Histopathological examination of the excised tissue confirmed the diagnosis of squamous cell carcinoma. **CONCLUSION:** This case demonstrates the successful surgical management of the patient. The use of musculo-muco-cutaneous flaps enabled effective tumor removal and reconstruction of the lip, preserving both function and appearance. This approach underscores the importance of early intervention and customized reconstruction in treating invasive squamous cell carcinoma.

## 26. ROBOT ASSISTED RADICAL PROSTATECTOMY A 40 YEARS OLD MALE PATIENT

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**BACKGROUND**: Radical prostatectomy remains the gold-standard treatment for clinically localized prostate cancer and Da Vinci robot represents the aid to offer the patient more benefits compared to open and laparoscopic surgery, such as better oncological outcomes (margin free rate) and functional outcomes (decreased pain, scarring, recovery time, lower incontinence and erectile dysfunction rate). The choice of procedure was robotic radical prostatectomy with Neurosafe procedure due to the young age of the patient. **CASE PRESENTATION:** the patient, 40 year old male, presented initially a macroscopic hematuria. The urologist performed a total abdominal ultrasound and the blood test indicated a PSA level of 14.5 ng/mL. The multiparametric prostatic MRI showed a peripheric prostatic lesion framed IRM PIRADS 5. This was followed by a fusion biopsy which revealed malignant biopsies, histological score Gleason 6 (3+3), group grade 1 of adenocarcinoma. The stadialization involved bone scintigraphy and CT thoraco-abdomino-pelvic native with contrast substance. Due to the negative bone scintigraphy and the normal CT, the prostate cancer was localized, the surgeon's best recommendation being radical prostatectomy with Da Vinci robot. The surgery with lymphadenectomy was performed in 180 minutes, without complications, with Neurosafe procedure - best suited for young people to prevent sexual impotence. A catheter was introduced for better anastomosis and the patient was discharged after 2 days with good lab tests. The catheter and the surgical sutures were removed after 10 days. The patient recovered excellent post-surgery and the pathology report concluded that the lymph nodes were free of neoplastic infiltration. The patient needs to be followed up only with PSA results after 1 month, 3 month and 6 month post-surgery. **CONCLUSION:** According to the literature, an increasing incidence of prostate cancer in men ages 20 to 49 years, especially since 1991 was observed, younger men being more likely to be recommended prostatectomy and to have lower grade cancer. Also, the studies that patients younger than 50 years with prostate cancer less frequently showed initial signs of lower urinary tract symptoms. Da Vinci robot approach with radical prostatectomy proved to be the best suitable surgical option overall for this young patient.

## 27. FROM BURN SCAR TO SKIN CANCER: SURGICAL MANAGEMENT OF MARJOLIN'S ULCER

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**BACKGROUND**: Marjolin's ulcer is a rare form of skin cancer developing on previously traumatized, inflamed, or burned tissue, resulting in a hypertrophic scar (0.7-2% of all burn victims) long after the initial insult of the skin. The most common malignancy manifestation is squamous cell carcinoma (90%), involving rapid metastasis and a bad prognosis if late diagnosed. This case report aims to analyze the management of treating this type of tumor and understand its pathophysiology. **CASE PRESENTATION:** We report the case of a 37-year-old female patient who presents with an inflamed, painful, ulcerated lesion of the right knee, that developed over the past year. The formation measures ~7 cm in diameter, with irregular contours, red-grey coloration, hardened cratered edges, and mobile to the underlying tissue. Her pathological history includes a post-burn scar over her lower right limb, which occurred 35 years prior, raising the suspicion for Marjolin's ulcer. An ultrasound of the soft tissues revealed no contact with any major blood vessels or the joint, located supra fascial, suggesting no infiltration. She is scheduled for wide local excision of the mass, within oncological limits, and skin graft implantation, harvested from the iliac crest region, without notable complications. After histopathological examination, the diagnosis is squamous cell carcinoma, developed on the precancerous lesion. Upon discharge, she receives oncological follow-ups regularly, with no recurring or metastasis observed over two years. Immunohistochemistry is pivotal in studying hypertrophic scar molecular markers (collagen; TGF-β). In Marjolin's ulcer, anarchic synthesis of collagen aggravates the mechanical stimulation of the scar, and malignant cells are avoided by the immune system through the obliteration of local lymph vessels and poor vascularization. **CONCLUSION:** Marjolin's ulcers are the product of an aberrant wound-healing process, ruled by uncontrolled collagen formation. Malignant development in burn victims is a poor outcome, and rapid surgical excision and regular oncological assessments are the gold standard in dealing with this type of lesion. This case proves that burn scars become a chronic condition, and monitoring them over time should be a standard of care.

## 28. ENDOMETRIOSIS - FROM HIDDEN PAIN TO HEALTHY REPRODUCTION

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**BACKGROUND**: Endometriosis is a disease characterized by the presence of endometrium-like epithelium and/or stroma outside the endometrium and myometrium, usually accompanied by inflammation. The following symptoms are associated with endometriosis: abdominopelvic pain, dysmenorrhea, heavy menstrual bleeding, infertility, dyspareunia, nausea, anxiety or depression. Endometriosis remains an under or misdiagnosed disease, a significant cause of morbidity that reduces quality of life in reproductive-age women. **CASE PRESENTATION:** We present the case of a 24-year-old woman, diagnosed with endometriosis, who presents at the ER for anorectal and chronic pelvic pain. The first hospital presentation was in 2021 in Italy, where she had her first open abdominal surgery. Despite the contraceptive treatment she was prescribed following surgery, she became pregnant and gave birth in 2021 through C-section. The laboratory tests show an elevated level of serum CA 125. The transvaginal ultrasound shows several endometriomas on the right ovary. During the procedure, 5 endometriomas ranging from 1 to 5 cm in diameter were excised from the right ovary and 3 infracentimetric ones from the left ovary. She opted for open abdominal surgery, declining laparoscopic approach. Right ovarian adhesiolysis was performed. A 2 cm posterior isthmic nodule involving the median rectum was found with complete occlusion of the Douglas pouch. The general surgeon was involved due to the possibility of rectal involvement and thorough dissection. Uterosacral ligaments were resected where invaded. Restoration of the Douglas pouch and ovarian suspension at the parietal peritoneum were performed. The patient is dismissed with favorable evolution, absence of pain and prospects of pregnancy. **CONCLUSION:** Diagnosing endometriosis can be facilitated by a reliable pelvic MRI, helping with planning the operation and counseling the patient. Detecting the profound lesions leads to an extensive and complete excision of the endometriotic tissue. A successful surgical procedure increases patient's chances to continue her reproductive life.

## 29. PRIMARY MENINGEAL B-CELL LYMPHOMA WITH INVOLVEMENT OF THE CALVARIA - A RARE CASE

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**BACKGROUND**: Primary dural lymphoma (PDL) is a rare and aggressive extranodal non-Hodgkin's lymphoma, classified as a subtype of primary central nervous system lymphoma, occurring only within the central nervous system. Intracranial lymphomas represent 1-5% of all intracranial neoplasms. Diffuse large B-cell lymphoma (DLBCL) with epidural or subdural involvement is an extremely rare variant of this tumor, representing less than 1% of all brain lymphomas and approximately 0.1% of all lymphomas globally. This case report aims to emphasize an uncommon case of primary dural lymphoma with involvement of the cranial vault and scalp, highlighting the significance of early diagnosis, imaging features, and personalized treatment for improved patient outcomes. **CASE PRESENTATION:** We report a case of a 40-year-old patient with PDL, with involvement of the cranial vault and scalp. A Computer Tomography (CT) scan with 3D reconstruction of the skull revealed an iso- to hyperdense tumorous mass located beneath the right parietal bone, with involvement of both bone and scalp. A non-contrast-enhanced magnetic resonance imaging (MRI) was performed. The patient underwent decompressive craniotomy, resulting in full tumor excision under general anesthesia. The histology diagnosis following surgery was meningeal large B-cell lymphoma. Postoperatively, the patient was referred to the Haematology department to undergo further chemotherapy courses. **CONCLUSION:** This rare tumor should be included in the differential diagnosis of meningeal and scalp lesions. Timely diagnosis along with personalised treatment is the accepted standard for good patient outcomes. The frequency of both early and late surgical complications must also be taken into account.



**ISSN 2076-6327**

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