Societatea Studenților
în Medicină din Timișoara

UNIVERSITATEA
DE MEDICINĂ ȘI FARMACIE
„VICTOR BABEȘ" DIN TIMIȘOARA

TIMISOARA Medis

17TH - 21ST OF APRIL 2024

ABSTRACT BOOK

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MANIFESTĂRI ȘTIINȚIFICE

Editura „Victor Babeș"
Timișoara, 2024

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ABSTRACT BOOK

THE 24TH INTERNATIONAL CONGRESS FOR MEDICAL STUDENTS AND YOUNG DOCTORS

17TH – 21ST APRIL 2024

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WELCOME LETTER

With immense gratitude, we welcome you to the 24th edition of the International Congress for Medical Students and Young Doctors, MEDIS, held between 17th to the 21st of April 2024. After a four-year break, this year's congress is a special occasion as we reunite to celebrate innovation, collaboration, and scientific excellence. This comeback edition signifies not only a return to tradition but also a new beginning filled with renewed energy and aspirations.

In a world where medical challenges constantly change, the importance of rigorous research and well prepared healthcare professionals cannot be overstated. Your participation in MEDIS underscores a collective commitment to this noble pursuit. Whether presenting research papers, participating in workshops, or engaging in key discussions, each of you plays a vital role in the growth of medical science.

Special thanks to everyone who was part of the organization of this comeback edition, without you, this would have been only an idea, but now, it is a dream that came true. Your dedication, enthusiasm, and tireless efforts have been the backbone of this event. We are deeply grateful to our speakers and sponsors whose dedication and support have been instrumental in bringing this congress back to life. Your contributions are invaluable and greatly appreciated. To all the participants, your commitment to medical excellence is admirable, and we are honored to support you on this journey of discovery and innovation.

Welcome to MEDIS 2024, where the spirit of inquiry and the pursuit of knowledge come alive. Together, let us shape the future of medicine and make lasting contributions to the health and well-being of communities worldwide

With warmest regards,

The Organizing Committee
24th International Congress for Medical Students and Young Doctors (MEDIS)
Medical Students' Society Timișoara (SSMT)

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3D Bioprinting of Model Tissues that Mimic the Tumor Microenvironment

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Introduction:
The purpose of this study was to analyze the interactions between tumor cells (SK-BR-3), TAFS (tumor- associated fibroblasts) and PBMCs (peripheral blood mononuclear cells) within three-dimensional TME (tumor microenvironment) models.
Our main hypothesis was that well-designed 3D models can offer new sets of information that cannot be obtained from 2D models. Furthermore, we wanted to analyze how different TME arrangements influence cell growth and interaction.

Materials and Methods:
To study this, a 3D bioprinter with cell-infused hydrogel was used to construct toroidal (donut) and pyramidal-shaped models for comparison. Both models were constructed with tumor cells centrally, surrounded by peritumoral cells. All cells were suspended in hydrogel designed to mimic TME.
The constructs were bathed in cell culture medium, so hypoxia could develop only in the pyramidal construct, in which tumor cells were buried in the bulk of the structure. After incubating for 14 days, the constructs were cryogenized and processed for histological analysis. Computer models were used in parallel to assess the predictive accuracy of the software.

Results:
Our findings show that cells aggregated around protein filaments within the TME with stratification occurring at the surface of the constructs. Cellular proliferation was higher in the pyramidal models, coupled with a higher consistency of cellular arrangement.
3D hydrogel cultured cells secreted more than twice as much MMP-2 and MMP-9 (proteolytic enzymes) as those cultured in Petri dishes.

Conclusions:
The data collected in this study suggests that the cells present in the TME tissue constructs can remodel the hydrogel's filament network via traction forces and the action of proteolytic enzymes. The differences observed between the toroidal and triple-layered tissue suggest that some of the cellular behavior was dictated by the topology of the TME. One possible explanation could be the presence of different nutrient gradients between our two construct models, creating a hypothesis for further study.

Keywords:
TAFs, PBMCs, tumor cells, 3D bioprinting, 3D tumor models

A Case Report Study Investigation of Lewy Body Dementia

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Introduction:
Lewy body dementia (LBD) is a form of neurodegenerative dementia characterized by the presence of Lewy bodies (alpha-synucleoid deposits) in the cerebral cortex. Overall incidence rages from 0.1% to 0.5% of elderly population and from 1.7% to 30.5% of all dementia cases.

Aim:
We report a case of a 77-year-old male patient, in treatment for Parkinson's disease, who presented with a clinical array suggestive for LBD.

Case report:
The patient presented fluctuating symptoms, including visual hallucinations, rapid eye movement (REM) sleep disturbances, fluctuating attention and cognitive disfunctions. He was initially evaluated for extrapyramidal symptoms impairment and diagnosed with Parkinson's disease. However, his symptoms rapidly worsened and a series of tests and investigations, including neuroimaging scans, led to the final diagnosis of significant cognitive impairment and an important reduction in daily functionality. Patient therapeutically management required an interdisciplinary approach, including pharmacological treatment for symptom control and family support.

Conclusion:
This case highlights the importance of correct recognition and management of LBD, as well as the complexity and challenges in managing this neurodegenerative disease. Although the prognosis for LBD is often poor, appropriate care and ongoing support can improve the quality of life for the patients and their family.

A diagnosis oddysey: from pancreatic head cancer to intrahepatic cholangiocarcinoma

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Introduction:
Focal liver tumors consist of benign lesions and malign lesions, the latter being categorized in primary liver and secondary liver cancer. Diagnosis primarily relies on abdominal CT scan and MRI imaging
techniques. Given the variability in therapeutic approaches, accurate differential diagnosis is imperative for optimal medical care, even if it necessitates contradicting prior assessments by other healthcare professionals.

Case presentation:
A 69-year-old male patient was admitted to our institution for abdominal pain and swelling in the left inferior limb. Upon admission the patient had hepatomegaly, but no hepatocytolysis or cholestasis. Blood tests for hepatic B and C virus were negative as well as the tumoral markers alpha fetoprotein and carcinoembryonic antigen. The patient had a recent personal history of deep vein thrombosis (DVT), hepatic cysts and pancreatic head neoplasm, diagnosed through abdominal ultrasonography, CT scan and MRI. Conversely, subsequent endoscopic ultrasound (EUS) invalidated both pancreatic and hepatic
diagnoses, supported by EUS-guided pancreatic biopsies that were normal. To reassess the initial diagnosis, the patient underwent abdominal contrast CT scan in a tertiary center, revealing normal
pancreatic morphology and one large along with multiple small focal lesions resembling abscesses in the right hepatic lobe. Abdominal contrast-enhancement ultrasonography detected high enhancement lesions with rapid arterial uptake and fast wash out with vascular features of malignant lesions, characteristic for hepatocarcinoma. A liver biopsy was taken for confirmation, but unfortunately the histopathological exam detected only necrosis. Doppler ultrasound of the left inferior limb showed DVT of the femoral and popliteal veins which was managed with anticoagulant medication, postponing the second liver biopsy.
Subsequent Primovist abdominal MRI led to the diagnosis of intrahepatic cholangiocarcinoma and allowed for oncological evaluation as surgical excision was not recommended in this stage.

Discussions:
This case presents a unique challenge as both clinical and paraclinical investigations have led to multiple misdiagnoses, necessitating prompt treatment decisions. The approach to oncological therapy for malignant liver tumors hinges on histopathological features, mandating a second liver biopsy. Due to the enlargement of the tumors between the first and the last diagnosis, it is discussed to start oncological
therapy relying on the imaging thechiques.

Keywords:
focal liver lesions, cholangiocarcinoma

A path diverted by the storm

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Introduction:
Electrical storm is a syndrome characterized by three or more sustained episodes of ventricular arrhythmias/24h, that generally requires electrical cardioversion. Thyrotoxicosis is associated with a noticeable risk of supraventricular arrhythmias, usually atrial fibrillation, ventricular arrhythmias being a scarce presentation of these patients. We report the case of a male with ventricular tachycardia (VT) in a context of thyrotoxicosis secondary to iodine overload.

Case report:
A 69-year-old with severe low-flow, low-gradient aortic stenosis and persistent high-rate atrial fibrillation was admitted to the hospital for evaluation for transcatheter aortic valve implantation (TAVI). Echocardiogram findings included left atrial enlargement and a hypertrophic, non-dilated left ventricle with reduced systolic function (EF 35%), alongside severe aortic stenosis. Following thoraco-abdominal-pelvic computed tomography angiography, the patient experienced multiple hemodynamically stable and unstable VT episodes, managed pharmacologically and electrically, respectively. Coronary angiography showed normal epicardial coronary arteries. Blood tests indicated severe hyperthyroidism (thyroid-stimulating hormone (TSH) level of 0.0001 uIU/ml, free thyroxine at 2.10 ng/dL, and thyroid peroxidase at 321.4 UI/ml), thyroid ultrasound revealing significantly increased blood flow, strongly suggestive of thyrotoxicosis secondary to iodine overload leading to thiamazole treatment (15mg/day). For the secondary prevention of sudden cardiac death, an implantable cardioverter defibrillator was placed. In this clinical scenario, the TAVI procedure was postponed. A month later, the patient was admitted to the emergency department experiencing an electrical storm (14 electric shocks and 170 anti-tachycardia pacing events). At this time, the patient's TSH level remained at 0.0001 uUI/ml, prompting an increase in the thiamazole dosage to 30mg per day and the addition of prednisone.

Discussions:
The link between hyperthyroidism and VT is thought to be due to the increased metabolic demand and heightened sympathetic nervous system activity seen in thyrotoxic states, which can exacerbate underlying heart conditions or create new cardiac arrhythmias. The excessive thyroid hormone levels can lead to increased sensitivity to sympathetic stimulation and alterations in the electrophysiological properties of the heart, setting the stage for arrhythmias such as VT.

Conclusions:
Although there are only few known cases of VT associated with hyperthyroidism, this case

highlights the importance of considering thyroid function in patients presenting with ventricular arrhythmias.
Keywords:
electrical storm, thyrotoxicosis, implantable cardioverter-defibrillator

A rare case of cholelithiasis associated with Enterobacter asburiae and Enterobacter cloacae infection, causing acute cholangitis

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Introduction:
Cholelithiasis is characterised by hardened deposits of bile that can obstruate the biliary pathways. Cholelithiasis can make the organism susceptible to the risk of bacterial infections including those caused by the species Enterobacter asburiae and Enterobacter coloacae. Those opportunistic pathogens are the
ethiologic agents that cause acute cholangitis which manifests as an infection of the bile ducts caused by bacterial overgrowth due to bile duct obstruction.

Case report:
An 89-year-old woman with a history of acute cholecystitis for which a cholecystolithotomy was performed, presents with jaundice, right epigastric pain, nausea, vomiting, hypertension and an altered general state. The bloodwork showed leukocytosis, heightened levels of c reactive protein, hyperbiliribimenia and elevated levels of amylase and lipase. The echography showed dilated intrahepatic bile ducts in both lobes, dilated principal billiary pathway with an intrahepatic gallstone measuring 10mm, a dilated Wirsung canal measuring 4mm and underhepatic fluid measuring less than 1mm. The clinical exam revealed yellow coloured skin and sclera as well as a hypersensitive right hypochondrium. Upon hospitalisation, a sample of bile was collected using an Einhorn tube and the results from the
laboratory revealed the presence of Enterobacter asburiae and Enterobacter cloacae. The identification was performed by mass spectrometry. The signs of a bacterial infection associated with cholelithiasis, in this case nausea, vomiting and leukocytosis were preliminarily treated with Amoxicillin and clavulanic acid. From the bile sample, an antibiogram was performed using the disk diffusion method. The
Vitek 2 compact equipment identified the bacterial species were resistant to the Amoxicillin and clavulanic acid combination. Subsequently, the treatment will be altered, taking into consideration the sensibility of these Enterobacter species to Cefepim, Ertapenem, Meropenem, Gentamicin. The antibiogram was performed according to EUCAST principles and the results were correlated with the Clinical Breakpoint Tables v. 13.0 and with the expected resistant phenotypes table.

Discussions:
Infection with Enterobacter asburiae and Enterobacter cloacae associated with cholelithiasis leads to various complications, in this case, acute cholangitis. Enterobacter asburiae and Enterobacter cloacae are pathogens whose proper management with the right antibiotics administered after receiving the results of the antibiogram is crucial for avoiding the occurrence of cholangitis.

Keywords:
cholelithiasis, Enterobacter asburiae, Enterobacter cloacae, acute cholangitis.

A rare case of disproportionate hypostature- the Importance of genetic testing in differential diagnosis of skeletal dysplasias

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Introduction:
Skeletal Dysplasias represent a heterogenous group of about 450 genetic diseases that cause abnormal development of a child's bones and cartilage, leading to hypostature and disproportionate growth. Many of those diseases can manifest similarly, thus a clinical diagnosis frequently proves to be challenging or insufficient.

Case Report:
A 6-year-old boy was admitted to the hospital presenting hindered growth, an abnormal gait and walking difficulties, accompanied by weakness in the legs. His mother admitted to taking psychotropic drugs (Diazepam, Medazepam, Carbamazepine) during the 1st month of pregnancy. Since he was 1.5 years old, he had suffered multiple episodes of stiffness or immobility of the legs, associated with pain, without any apparent reason. All treatments had proven inefficient. The clinical exam revealed widened distal epiphysis of the forearms, bilateral mesomelia, hyperlordosis, genital hypoplasia, genu valgum, and low insertion of the ears. He had a short stature (107cm), an arm span to height ratio of 0.8 (normal=1), and he was overweight (BMI+3.3 SD). A Beta- Crosslaps analysis indicated increased bone resorption. X-Rays of the knee, wrist and elbow showed double-layered patellas and bilateral epiphyseal irregularity of the wrist. Osteodensitometry revealed low bone density. The clinical diagnosis was „Acromesomelic skeletal dysplasia of the epiphysis and metaphysis” and „Disproportionate Hypostature”, however, the exact etiology was yet unclear. Gene sequencing of the Skeletal Disorders Panel then revealed a pathogenic autosomal dominant mutation in the COMP gene, which is associated with multiple epiphyseal dysplasia.

Discussions:
Multiple epiphyseal dysplasia is a rare form of skeletal dysplasia
which can be associated with multiple gene mutations. Therefore, clinical evaluation alone cannot provide precise information about the etiology or
inheritance pattern of the disease, which are very important when it comes to providing appropriate genetic counseling for the patient and their family.

Keywords:
multiple epiphyseal dysplasia, skeletal dysplasia, genetic testing, COMP gene, disproportionate hypostature

A rare case of uveal melanoma

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Background:
Uveal melanoma, a rare and dangerous eye cancer originating from uveal melanocytes, often unfolds asymptomatically, posing challenges in its early detection. As the disease advances, symptoms like blurred vision or eye protrusion may surface, indicating its progression. Diagnosis necessitates thorough eye evaluations and advanced imaging techniques such as ultrasound. Treatment avenues encompass radiation and surgery, meticulously adapted to the unique traits of each tumor. Swift detection and timely intervention are pivotal, not only for enhancing outcomes but also for preserving vision in individuals grappling with uveal melanoma.

Materials and Methods:
We present a case involving a 61-year-old man who sought medical attention due to a three-month history of headaches accompanied by a gradual decline in vision. Through meticulous clinical investigations, the diagnosis of uveal melanoma was firmly established, prompting enucleation. Macroscopical examination revealed a tumoral proliferation measuring 15x9 mm, extending to 10 disc-diameters (DD) and corresponding to
22.5 diopters. Microscopy unveiled the predominance of malignant epithelioid melanocytic cells in the tumoral mass, indicating an intraocular choroidal melanoma (>90%). Invasion of the ciliary body or lens was absent, with the tumor situated 1 mm from the optic nerve. While extraocular extension was absent, retinal detachment was noted. The mitotic index approximated 10 mitoses/40 high-power fields (HPF), with a rich macrophage infiltrate spanning the tumor thickness. Microvascular density averaged 31 microvessels/3 HPF. Immunohistochemical labeling of the tumor cells revealed intense positivity for SOX10, Melan A/MART1, and HMB45 in the melanocytic tumor cell population, and for CD68 in the histiocytes. The tumoral proliferation index Ki67 was approximately 30%, although accurate quantification was challenging due to extensive intratumoral necrosis.

Results:
According to the histopathological report, the TNM classification, and the examination of the specimen, the patient was diagnosed with intraocular choroidal melanoma, stage pT3aNxMx, in the left eye, following the L0V0R0 staging system.

Conclusion:

Intraocular melanomas, while rare in everyday clinical encounters, demand meticulous attention. Grasping their incidence, origins, morphology, treatment options, and ultimate prognosis is essential for delivering thorough patient care and effective management strategies.

Keywords:
Uveal melanoma, immunohistochemical labeling, choroidal melanoma, ocular tumor

A rare ethiology of culture negative endocarditis after transcatheter pulmonary valve implantation: a pediatric case report

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Introduction:
Advancements in transcatheter interventions have revolutionized the treatment of children with right ventricular (RV) dysfunction after correction of tetralogy of Fallot (TOF). Infective endocarditis (IE) after transcatheter pulmonary valve implantation (TPVI) remains a challenging complication.

Case presentation:
We present a case of a 13-year-old male with a history of TOF diagnosed with Bartonella henselae culture-negative IE occurring 8-months after Melody valve implantation. In neonatal period, the patient was palliated and a complete repair of TOF was performed at the age of 18-months. Six months later, a18mm Contrega-conduit was used to reconstruct the RVOT for significant pulmonary regurgitation (PR). At the age of 13, the patient underwent Melody valve implantation for significant PR. Eight months later, the patient was admitted with signs of RV failure, without fever. Echocardiography revealed clear images of IE of the Melody valve with severe stenosis. MRI detected dilated RV with low EF(28%). Due to rapid hemodynamic deterioration, he was transferred abroad, into an intensive care unit. Serial blood cultures were negative. In the context of right-sided valve IE, the decision was made to proceed with surgery while parenteral antibiotics were administrated. The foreign body material was removed, and the RVOT was reconstructed by homoplasy with a 23mm homograft. Bartonella henselae grew from the prosthetic tissue. The patient underwent an uneventful post-operative evolution with 6-week course of intravenous antibiotic treatment. Peri-operative echocardiography confirmed a normal functioning pulmonary valve homograft.

Discussions:
IE of TPVI is a life-threatening complication and associated with a relevant need of re-intervention. Most cases involve common causative organisms. This case report highlighted the importance of a high index of clinical suspicion for Bartonella species in blood culture-negative IE in patients with Melody TPVI. Homograft remains the best surgical substitute in the context of right-sided prosthetic valve IE.

Keywords:
Transcatheter valve prosthesis; infective endocarditis; tetralogy of Fallot

Acute pancreatitis: a dive into the world of hypertriglyceridemia

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Introduction:
Acute pancreatitis, the inflammatory disorder of the pancreas, is a pathology well- known worldwide, remaining one of the most common gastrointestinal causes of admission to the hospital, with high morbidity and mortality, leading to a constant improvement in its management.

Case presentation:
A 39-year-old male patient, known with mixed dyslipidemia and diabetes mellitus non-compliant with treatment, presented to the Emergency Department with severe, radiating abdominal pain and episodes of vomiting following a fat-rich meal. The laboratory tests showed a hyperlipemic serum, with increased numbers of leucocytes, neutrophils, and elevated levels of amylase (138 U/L). The CT evaluation highlighted an enlarged, heterogeneous pancreatic head, pericephalic soft tissue densification around the superior mesenteric artery and vein, and steatotic hepatomegaly.
The patient was admitted for treatment and further investigations. Subsequent results revealed extremely elevated triglycerides (1568 mg/dl), high cholesterol (342 mg/dl), and increasing amylase (304 U/L), confirming the dysmetabolic etiology of the pancreatitis. Despite treatment, the patient's clinical condition remained stationary, with CT reevaluation showing an edematous pancreas, with necrosis at the uncinate process without vascular complications or acute cholecystitis. Serum sodium levels were measured during hospitalization, with low values ranging from 131 to 135 mmol/L. After treatment adjustment, the levels of inflammatory markers, amylase (21 U/L), triglycerides (338 mg/dL), and sodium improved (>136 mmol/L), which finally led to the slow recovery of the patient's condition.

Discussions:
In cases of significantly elevated triglyceride levels, interference with sodium assays may occur, particularly when using ion-selective electrodes, due to the physical properties (volume replacement) of triglycerides and their effects on sample turbidity, leading to falsely low sodium results. Therefore, it's essential to be aware of potential interferences and to interpret laboratory results in the context of the patient's clinical presentation. Although it is not the most common etiology, especially in the cases of younger patients, severe hypertriglyceridemia can increase the risk of acute pancreatitis. Prompt identification of the etiology of acute pancreatitis is vital for appropriate management, as it can rapidly progress to severe necrotizing pancreatitis.

Keywords:
triglycerides, necrotic pancreatitis, analytic interferences

Adie tonic pupil associated with COVID-19 infection

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Introduction:
Adie pupil represents a large dilated "tonic pupil", which does not constrict to bright light, but can slowly accommodate to near objects, thereby demonstrating light-near dissociation. It is determined by idiopathic degeneration of the ciliary ganglion, which sometimes may occur after a viral illness, as recent literature have shown, even COVID-19 infection can be involved. Most of the time is unilateral and typically affects young females.

Case report:
A 45 year old previously healthy female patient who came to the clinic with the complaint of anisocoria within the last week, associated with loss of visual acuity of the right eye, pressure in the eye and head. From previous medical history, she was diagnosed with COVID-19.
Pupillary examination showed an enlarged right pupil unreactive to the light, near response was also impaired. In the neurological examination the visual field was normal; visual acuity (20/20) with hypermetropia and presbyopia; the intraocular pressure was 19 mmHg for RE and 20.7 mmHg for LE. Glaucoma was initially suspected due to the increased intraocular pressure and the excavation of the optic nerve. The fundoscopy revealed an enlarged optical disc with no modifications of RNFL on OCT. Pharmacological testing with dilute Pilocarpine 0,1% resulted in constriction of the right pupil, but no change in the left pupil, demonstrating cholinergic hypersensitivity.

Discussions:
Adie tonic pupil is a dilated pupil with preserved near response despite poor light reaction, and hypersensitivity to cholinergic drugs. It happens as a result of abnormal regeneration of parasympathetic nerve fibers following damage to the ciliary ganglion. The light-near dissociation occurs due to the fact that the ciliary body presents a much denser neuronal innervation compared to the iridian sphincter. The presented case was accepted as a tonic pupil related to the infection with the COVID-19 based on the patient`s recent history, just prior to ophthalmologic complaints, after all other possible causes were excluded.

Keywords:
Adie tonic pupil, anisocoria, COVID-19 infection, ciliary ganglio

Analysis of the patency and complications of biliary plastic stents. A retrospective two-year single center analysis

Autor: Timea Bandi
Scientific coordinator: Asist. univ. dr. Tudor Moga

Introduction:
Biliary plastic stents (BPS) are often used in ERCP practice, however the patency and the complications related to BPS are rather variable.
The aim of this paper was to identify risk factors related to the patency of BPS in our cohort.

Material & Methods:
A retrospective analysis was made on patients who underwent ERCP (endoscopic cholangio-pancreatography) in our center during January 2021 to December 2022. Patients with malignant etiology were exclude and were enrolled for analysis patients who had performed at least one ERCP reintervention in the last 23 months and a BPS was placed at the index ERCP.

Results:
During a two-year period, 1354 procedures have been made in our Gastroenterology department out of which 1077 were for a benign pathology. 212/1077 (19.7%) have been reinterventions for a benign etiology, thus BPS were previously placed.
Form 212 subjects, 45% were males and the mean aged was 68.36± 14.96 years. In 81.1% of the cases the obstruction was caused by choledocholithiasis, in 9.5% by common biliary duct stenosis, in 7% by chronic pancreatitis and in 2.4% of the cases by other causes.
The median time between the initial procedure and reintervention was 90 (1-1095) days. In 32% (68/212) of the subjects, the reintervention was performed due to acute cholangitis out of which 34% had Tokyo grade 3 cholangitis. In univariate regression analysis, the following parameters were independent predictors for cholangitis in PBS: total bilirubin values, AST values, ALT values, days until reintervention and CRP values ($p< 0.05$).

Conclusions:
In our cohort, 19.7% have been reinterventions for a benign pathology with a previous BPS placement. In 32 % of them the reintervention was subsequent to acute cholangitis. Days until reintervention, TGO, TGP, TB and CRP were associated with acute cholangitis in PBS.

Keywords:
ERCP; plastic biliary stents; complications

Anorectal melanoma: a hidden silent killer

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Introduction:
Anorectal melanoma is a very rare type of cancer that accounts for approximately 1% of all melanomas. It usually affects older people and has an unclear etiopathogenesis since UV rays don't reach this mucosa. The prognosis is poor and the treatment: surgical, chemo or immunotherapy depends on the stage of the tumour and the presence of BRAF mutations.

Case presentation:
A 70-year-old male patient was admitted to the gastroenterology department complaining of pyrosis and right upper quadrant abdominal pain. An abdominal ultrasonography revealed hepatomegaly with multiple focal liver lesions raising the suspicion of hepatic metastasis. At endoscopy, an antral gastritis was identified and during colonoscopy, several polyps were found along the colon and a 3 cm, circumferential black tumour was found at the rectal level and biopsied. Histopathology findings confirmed the anorectal melanoma diagnosis, and there were no BRAF mutations detected during genotyping. During PET-CT, several high intensity secondary hepatic lesions were found alongside the rectal lesion. The brain MRI had no abnormalities. Given the late-stage of the melanoma and the non-obstructive, asymptomatic character of the primary rectal cancer, immunotherapy with Nivolumab and Ipilimumab is instated. Before the third treatment cycle, assessments showed that immunotherapy could not be continued due to the severity of liver damage despite administrating hepatoprotective drugs, and the patient subsequently died of metastasis-induced complications.

Discussions:
The patient did not undergo any lower digestive tract investigations in the past and in the absence of rectal bleedings or obstructive symptoms, it is nearly impossible to detect the melanoma in the incipient phase, hence part of the presenting complaint being related to the hepatic metastasis.
The aggressiveness of the melanoma metastasis could explain the rapid degradation of the hepatic function rather than the hepatotoxicity induced by the combined immunotherapy.

Conclusions:
This case presentation reveals the difficulties of diagnosing a very rare and aggressive disease that is often diagnosed in its later stages but also the limited management options and poor prognosis of these patients.

Keywords:
anorectal melanoma, liver metastasis, BRAF, immunotherapy.

Biliary fistula after HPB surgery: Incidence, risk factors and management in a cohort of 68 patients

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Background:
Biliary fistula is a recognised complication following hepato-pancreatic-biliary (HPB) surgery and contributes to significant postoperative morbidity. This study aimed to investigate the incidence, associated risk factors, diagnostic approaches and management strategies for biliary fistulas in a cohort of 68 patients undergoing HPB surgery between 2018 and 2023.

Methods:
A retrospective analysis of prospectively collected data was performed on 68 patients who developed biliary fistula after HPB surgery. Patient demographics, surgical details, fistula characteristics, diagnostic modalities and management outcomes were analysed.

Results:
The incidence of biliary fistula in our cohort was 25%. Risk factors associated with fistula development included advanced age, preoperative biliary obstruction, and complex surgical procedures including liver resection and pancreaticoduodenectomy. Diagnosis was mainly made by biochemical tests, imaging (ultrasound, CT, MRCP) and invasive techniques (ERCP, PTC). Management strategies varied according to the severity of the fistula, ranging from conservative measures such as drainage and nutritional support to endoscopic or surgical intervention.

Conclusion:
Biliary fistula remains a significant complication following HPB surgery, affecting approximately 25% of patients in our study cohort. Early recognition, accurate diagnosis and tailored management are essential to optimise patient outcomes. Further research is warranted to explore preventative measures and refine management algorithms for biliary fistula in the context of HPB surgery.

Botulinic toxin prehabilitation before abdominal wall reconstruction: more than meets the eye?

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Introduction and objective of the study:

Complex ventral hernia repair poses a major surgical challenge for surgeons, due to the risk of excessive tension following its repair and the high risk of postoperative recurrence. One potential solution for such cases is preoperative botulinum toxin A injection into the lateral abdominal wall in order to improve postoperative outcome.

Discussion:

We present the case of a 47 year old patient with a history of accidental electrocution from which he suffered bilateral lower limb amputation, right arm amputation and abdominal compartment syndrome managed as an open abdomen that presented to our surgical department with an M1-3 W3 complex ventral hernia. Preoperative ultrasound guided botulinic toxin A was injected into all 3 lateral abdominal wall layers and 3 weeks later the patient was scheduled for an elective abdominal wall repair. A reiterative midline incision was made, the skin grafts were dissected from the abdominal contents and the posterior rectus sheet was identified. Dissection of the posterior rectus sheets was made until its its lateral margins, followed by bilateral transversus abdominis release in order to satisfyingly suture the linea alba. A macroporous lightweight mesh was used to reinforce the abdominal wall. No excessive tension was observed before closure. Postoperative recovery was uneventful, no surgical site occurences were noted. Patient was discharged on postoperative day 8.

Conclusions:

This case highlights the advantages of preoperative botulinum toxic A prophylaxis for ideal abdominal wall closure, proving this concept effective.

Keywords:

Abdominal wall reconstruction, incisional hernia, botulinic toxin A, ventral hernia repair;

Bowel obstruction due to meckel's diverticulum

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Introduction:
The term "bowel obstruction" refers to a partial or entirely blockage of the big or small intestine.
Meckel's diverticulum, a vestige of the vitelline duct, is a mild deformation of the small intestine that is present from birth, which is composed of tissue similar to that found in the stomach or the pancreas.

Case presentation: A 62-year-old male patient with no personal pathological history presents at the emergency department with the following conditions: diffuse abdominal pain, nausea, vomiting, and lack of intestinal transit for about two days. Laboratory results revealed: low leukocyte count (2,59 x 10^3/µL), low lymphocytes (0,4 x 10^3/µL), low amylase (17.9 U/L). The abdomino-pelvic CT highlights the following: infiltrated mesentery with mesenteric vessels converging radially at the level of the right flank, with marked distension of the enteric loops upstream of the volvulus (with sudden decalibration at the level of the terminal ileum), enteric loops with predominantly water content, which associates several hydroaeric levels. Small perihepatic and interileal fluid collection. Based on all the above, the diagnosis of intestinal occlusion is made.
The pacient is admitted to the surgical ward, where it was performed a diagnostic laparotomy with bowel resection and anastomosis.
The histology showed an ileal diverticulum with location and histological appearance suggesting a Meckel's diverticulum, with gastric mucosal ectopy without atypia.
Given the positive development, the patient is discharged in good general condition, hemodynamically and respiratory stable with intestinal transit and physiological micturitions.

Discussions:
Meckel's diverticulum's incidence is between 1% and 3%, and only approximately 2% of patients develop complications. It is difficult to diagnose preoperatively: in a study of 776 patients only 11% of those who presented symptoms were rightly diagnosed. Meckel's diverticulum is a significant cause of death and morbidity due to its frequently incorrect diagnosis.

Conclusions:
Finally, if only one idea is to be remembered, it should be: "Meckel's is a great mimic that must be considered in all cases of intra-abdominal disease in which the cause is not readily apparent."(Charles K. Brown MD).

Keywords:
Meckel's diverticulum, bowel obstruction.

CAR-Expressing Immune Cells in Solid Tumors Immunotherapies

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Introduction:
Overexpression of EGFR has been observed in several kinds of human malignancies and is associated with tumor recurrence, neoangiogenesis and metastasis. Development of an EGFR-targeted chimeric antigen receptor (CAR) therapy might prove beneficial for many cancer patients.

Objectives:
In this study we aimed to evaluate the efficiency of EGFR-targeted CAR cells and to assess their cytotoxic potential against EGFR-positive solid tumors *in vitro*.

Methods and Materials:
PBMCs were subjected to a regimen of cytokine/bead stimulation in order to obtain NK-polarized and T- polarized populations, which subsequently were employed in the study for the engineering of CAR-targeted immune cells. CAR expression was determined by flow cytometry analysis. The cytolytic activity of genetically modified CAR cells was assessed in a proof-of-concept experiment, in which the effector cells were put in contact with tumor cell lines that express the CAR target, EGFR, at different intensities: MDA-MB-468 (high), SK-BR-3 (moderate) and K562 cells (no expression). Direct cytotoxicity of CAR cells against tumor cells was evaluated in an end-point manner using calcein violet labelled target cells for 3 hours followed by quantification of living target cells by flow cytometry assay.

Results:
Surface expression of EGFR-specific CAR on transduced cells ranged from 55-76% of all GFP positive cells, with T cells expressing the CAR at higher intensities, followed by NKT and a very low to almost undetectable expression on NK cells. EGFR-CAR transduced cells displayed significantly increased specific lysis against MDA-MB-468. Cytotoxicity against SK-BR-3 was decreased, 24.6% for SK-BR-3 vs. 34.5% for MDA-MB-468 specific lysis at an effector:target ratio of 10:1. Cytotoxicity against K562 cells did not differ between transduced and untransduced cells, as these tumor cells do not have EGFR.

Conclusions:
CAR-transduced cells demonstrated anti-EGFR- CAR specific cytotoxicity against EGFR-positive tumor targets *in vitro*, supporting the potential clinical application of anti-EGFR CAR cells in solid tumors.

Keywords:
CAR, EGFR, tumor cell lines, cytotoxicity

Complex liver trauma: timing and how to proceed

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Introduction:

The management of complex liver trauma presents significant clinical challenges, and therefore requires careful consideration of optimal timing and strategies. This study aims to investigate current practices and outcomes through case studies and literature review.

Materials and Methods:

A systematic literature review was conducted on PubMed, Embase, and Cochrane Library databases. The studies included reported patient demographics, injury characteristics, management approaches, outcomes, and follow-up data. The study also analysed three liver trauma cases from our clinic in the past year. A patient presented with a 3/4 grade liver injury combined with a kidney injury and was treated by liver packing and nephrectomy. The #2 patient presented with a spleen and liver injury at the level of segment 5 and was treated by embolization. The #3 patient presented with a mixt injury regarding both spleen and liver and was treated by packing and later resection of affected segments. These cases align with broader trends observed in the literature, which underline the need for customized approaches based on injury severity and patient stability and anatomy.

Discussion:

The significance of early recognition and appropriate intervention is paramount in managing complex liver trauma effectively. Tailored surgical approaches, such as hepatic resection or damage control surgery, can optimize outcomes. These findings support existing literature, emphasizing the importance of individualized strategies.

Conclusion:

Managing complex liver trauma requires a nuanced approach, as demonstrated by this study. Personalized approaches, based on injury severity and patient stability, have been shown to improve outcomes. Ongoing research is needed to further optimize treatment options.

Contrast enhanced ultrasonography as a key tool in diagnosing a rare complication of ADPKD

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Introduction:
Autosomal Dominant Polycystic Kidney Disease (ADPKD) is a hereditary condition characterized by the development of numerous cysts in the kidneys and other organs. Here, we present the case of a 48-year-old renal transplant recipient experiencing graft dysfunction, who presented to Târgu Mureș Emergency Hospital with colicky left hypochondrial pain and recent onset of macroscopic hematuria.

Case presentation:
The patient with ADPKD on the maternal side and kidney transplant since 2019, was admitted to the Nephrology Department with left hypochondrial pain and macroscopic hematuria. He had a history of chronic graft failure with elevated creatinine but
without previous symptoms. Past medical history also included early-onset hypertension and thrombophilia. On clinical examination, he exhibited moderate distress, abdominal and lumbar tenderness on palpation and a blood pressure of 155/90 mmHg.
Laboratory investigations revealed elevated serum creatinine, urea, and proteinuria, suggestive of uremic syndrome necessitating a low-protein diet. A reduced glomerular filtration rate (GFR) indicated severe renal impairment. Anemia secondary to iron deficiency was noted, along with altered coagulation parameters due to anticoagulant overdose. Additionally, chronic immunosuppressive therapy contributed to hypomagnesemia and hypocalcemia, possibly indicative of secondary hyperparathyroidism.
Ultrasound revealed multiple cysts situated in the left renal parenchyma with inhomogeneous content, raising suspicion of a renal tumor. Furthermore, CT scan revealed renal cysts with predominantly hyperdense material, indicating possible hemorrhage in the left kidney.
For clarification of the non-tumoral nature of the focal lesion, contrast-enhanced ultrasound (CEUS) of the left kidney was performed. After bolus administration of 1.6 ml of contrast agent, there was no contrast uptake, indicating a benign nature.

Conclusion:
ADPKD presents challenges in renal transplant recipients, necessitating careful management to address complications like intracystic hemorrhage. CEUS proved to be an effective tool in revealing the benign character. Additionally, anticoagulant overdose may have contributed to intracystic hemorrhage.

Keywords:
ADPKD, ultrasound, intracystic hemorrhage, thrombophilia, anticoagulant

Diagnosis and Management of Acute Aortic Dissection and Acquired Heart Disease - Coronary Cardiomyopathy

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Introduction:
Acute dissection of the aorta is a major medical-surgical emergency, manifests as a tear in the aortic wall, allowing blood to flow between layers. This condition demands immediate medical intervention to prevent organ damage or rupture. The etiology of this disease are genetic diseases- Ex. Mr. Marfan and the acquired ones - atherosclerosis, trauma, toxic substances and inflammatory diseases. When coupled with coronary heart disease, characterized by narrowed arteries, the situation becomes considerably more intricate. The synergy between these conditions amplifies the risk, necessitating comprehensive and precise management. The mortality rate for acute aortic dissection can vary widely, but studies indicate it ranges from approximately 20% to 30%. However, it's important to note that this percentage can be influenced by various factors, including the promptness of diagnosis, the patient's overall health, the location and extent of the dissection, and the effectiveness of medical interventions, therefore it must be performed as quickly and correctly as possible.

Materials and Methods:
The case study was carried out in Craiova, Dolj county for the entire period of activity of the Cardiovascular Surgery department, the first open heart operation being performed on 08.12.2022. According to the statistics we have established that accurate and swift diagnosis involves advanced imaging techniques such as CT scans or Coronary Angiogram to assess the extent of the dissection and evaluate coronary artery involvement. Surgical intervention is a primary treatment approach, aiming to repair the torn aorta and address any coronary blockages simultaneously.

Results:
The total number of heart operations from 08.12.2022 till 10.2023 is 55 of which 6 are aortic dissections. In our case report it is called Replacement of the aortic valve with a biological prosthesis and the ascending aorta with a Dacron prosthesis with coronary artery reimplantation (the right coronary artery in the ascending aorta prosthesis and the left coronary artery anastomosed to a Dacron prosthesis and later anastomosed in the ascending aorta prosthesis) (variant of the adapted Bentall procedure). Post-operative care is meticulous, involving continuous monitoring of vital signs, imaging follow-ups, and tailored medications to manage blood pressure and prevent further complications.

Conclusions:
Regardless of the high percentage of mortality in acute aortic dissection, rapid diagnosis with all investigations is very important. Cardiologists, cardiac surgeons, radiologists, and other specialists work together to develop personalized treatment plans. Long-term management focuses on lifestyle modifications, including diet, exercise, and medication adherence, to reduce the risk of recurrence.

Keywords:
aortic dissection, Bentall procedure, coronary cardiomyopathy, bypass.

Early and Late Complications of Hypospadias Repair - an Age-Dependent Review

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Background:
Hypospadias remains one of the most common congenital anomalies in paediatric male patients. There have been concerns, specific clinical factors such as urethrocutaneous fistulas, and psychosexual factors, that have been understudied.

Objectives:
The aim of this study is to correlate the early and late complications of this surgery with the patient's age.

Materials:
A thorough research was conducted on PubMed and multiple articles were gathered from 2016 through 2023, taking into consideration multiple factors: the surgical techniques that were chosen, urethral early complications and the psychological and sexual late complications in adolescents. The last one was researched using questionnaires such as The Decision Regret Scale and Paediatric Penile Perception Score.

Methods:
The including criteria was based specifically on age-dependent complications, while the excluding criteria consisted of patients' overlap. Bias risk was not evaluated and PRISMA guidelines were used for data abstraction.

Results:
Out of the 13 gathered articles, 9 provided the most useful information. Dale et al., (2023) indicates that, from the 98 children who underwent surgery after 2 years of age, 7 of them suffered a range of complications including: dislodged stents (3/7), significant spasmodic pain requiring prolonged hospital stay (2/7) and urinary retention (2/7). Regarding psychosexual outcome, J W Tack et al., (2020) showed that 10% of the young adults had mild erectile and ejaculation problems, but 80% of them were satisfied with having had a childhood surgical repair.

Conclusions:
Based on personal research, complications are not exclusive to a particular age group; however, this study emphasizes the correlation between complications and patient age, revealing a decreasing trend in their occurrence over the years.

Keywords:
Hypospadias, Hypospadias Repair, Early Complications, Paediatric

Effects of bag carrying type on plantar pressure during gait in students – preliminary results

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Background:
The aim of the study was to assess the influence of different types of bags carrying on plantar pressure during gait in students.

Material and method:
Plantar pressure was assessed with the P-walk platform (BTS Bioengineering, Italy). Subjects walked on the platform with and without carrying a bag. The bag load represented 10% of each subject weight. The bag carrying types compared in the present study were carrying a back-bag (on both shoulders) and a one-shoulder bag. For each condition (no bag, back-bag, right shoulder, and left shoulder bag), the average and maximum pressures were recorded.

Results:
Fifteen students (mean age 22.33±2.89 years; BMI 21.69±2.08 kg/m2; 33.33% males) were included in the study. No significant differences were found between conditions.

Conclusion: No matter what the bag-carrying type was, carrying a bag with a load of 10% of body weight has no influence on plantar pressure during gait.

Efficacy of Aztreonam with Imipenem/Relebactam or with Ceftazidime/Avibactam against difficult-to-treat *Klebsiella pneumoniae* infections - an *in vitro* study

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Introduction:
Antimicrobial resistance has constantly been a headline of public health issues around the globe in the last decades, especially among Enterobacterales, which stand as etiologic agents to a large share of difficult-to-treat (DTR) infections, defined by resistance to all firstline antimicrobials including beta-lactams and fluoroquinolones. This study aims to evaluate *in vitro* efficacy of aztreonam in combination with imipenem/relebactam or with ceftazidime/avibactam against carbapenem-producing *Klebsiella pneumoniae* strains as potential therapeutic alternatives tackling these microorganisms.

Materials and Methods:
Between August 2023 and February 2024, 178 strains of *Klebsiella pneumoniae* were isolated from patients presenting with various infections in the "Prof. Dr. Matei Bals" National Institute of Infectious Diseases. ESBL and carbapenemase production were afterwards determined according to EUCAST guidelines, using NG Test/CTX-M Multi (NG Biotech-France) and Resist-3 O.K.N. *K*-SeT (Coris BioConcept-Belgium). Synergistic activity between aztreonam 30µg, ceftazidime/avibactam 14µg (Oxoid Ltd-UK) and imipenem/relebactam 35µg (MastGroup Ltd-UK) was assessed using the double disk diffusion method, placing the disks 20 mm center-to-center apart from each other on Mueller-Hinton agar plates, previously inoculated with the strain to be tested. Synergic activity was considered positive if the inhibition zones around any of the cephalosporin or carbapenem disks were augmented or upon the presence of an inhibition zone between aztreonam and any of the two disks.

Results:
Seventy three strains (41.01%) were cabapenemase producers, with 23.29% (n=17) producing NDM, 9.59% (n=7) OXA-48, 6.84% (n=5) KPC, 58.9% (n=43) producing both NDM+OXA-48, and one producing NDM+VIM+IMP, while 103/178 strains (57.87%) reported ESBL production. Synergistic activity between aztreonam and imipenem/relebactam was reported on 79.45% (n=58) of carbapenemase-producing strains, and between aztreonam and ceftazidime/avibactam on 98.63% (n=72). Synergistic activity between aztreonam and imipenem/relebactam was not reported on any of the KPC producers. The only strain on which aztreonam and ceftazidime/avibactam had no synergistic activity was an OXA-48 producer susceptible to aztreonam (MIC <=1µg/mL).

Conclusions:
Both antimicrobial associations proved synergistic *in vitro* on carbapenem-producing *Klebsiella pneumoniae* strains, suggesting their potential as efficient therapeutic alternatives

targeting infections caused by these bacteria.

Keywords:
Klebsiella pneumoniae, Antimicrobial resistance, Difficult-to-treat infections, Aztreonam, Imipenem/Relebactam, Ceftazidime/Avibactam

Empagliflozin reduced oxidative stress induced by angiotensin II in human atrial tissue

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Background:
Increased oxidative stress is a central event underlying the progression of cardiovascular complications in diabetes mellitus. Sodium-glucose cotransporter-2 inhibitors (SGLT2i) are a novel class of antidiabetics able to modulate the reactive oxygen species (ROS) generation in both diabetic and non-diabetic cardiac patients, but the mechanisms are partially elucidated. The current pilot study aimed to evaluate the antioxidant effects of the SGLT2i, empagliflozin, on in human cardiac samples harvested from patients with heart failure subjected to open-heart surgery.

Material and methods:
Atrial samples were isolated by resecting the tip of the right atrial appendage from 15 non-diabetic patients after establishing the cardiopulmonary bypass. The samples were incubated in an organ culture setup with empagliflozin (10 microM, 12 h) in the presence or absence of angiotensin II (AngII, 100 nM, 12h) and further used for measurement pf ROS level by two methods: dihydroethidium stain in confocal microscopy and ferrous iron oxidation xylenol orange spectrophotometric assay.

Results:
Results showed that AngII stimulation increased ROS production in human atrial tissue and acute incubation with empagliflozin significantly decreased it.

Conclusion:
SGLT2i attenuated the AngII-related oxidative stress independent of
their effect on the glycemia, suggesting the beneficial effects in conditions associated with overactivation of the renin-angiotension-aldosterone system.

Keywords:
human atrial samples, angiotensin II, oxidative stress, SGLT2 inhibitors

Experience in paediatric Ureteropelvic Junction Obstruction surgery: an eight-year journey

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Introduction:
Surgical treatment of Ureteropelvic Junction Obstruction (UPJO) has evolved in the last decades shifting its "gold-standard" from Open Pyeloplasty (OP) to Robot-assisted Pyeloplasty (RALP). This study presents the findings of a single center 8-years' experience, analysing results and outcomes of OP vs laparoscopic (LP) vs endourology (EN) vs RALP approaches.

Materials and Methods:
We conducted a comparative, retrospective study evaluating paediatric patients surgically treated for UPJO in our clinic between 2016 and 2023. Data have been analysed for intra and post-operative complications, surgery and hospitalization duration, use of antalgic and antibiotic therapy, restenosis. Outcome was defined favourable if reduction of hydronephrosis at ultrasound >2 grades and/or no obstruction was present at renal scintigraphy. JASP software was used to conduct the statistical analysis.

Results:
The study included 61 patients treated by 19 OP, 3 EN, 25 LP, 14 RALP. The mean age at diagnosis (excluding antenatal diagnosis) was 88.37 months (r:1-204) while at surgery was 81.9 months (r: 1-220) being significantly lower in OP (62.42) ($p< 0.05$). Mean operative time was shorter in OP (110 min.) ($p<0.05$) than in other groups, while hospitalization mean in days was lower for LP (7.04) ($p<0.05$), EN (11.66) and RALP (14.64) ($p<0.01$). Significant relation ($p<0.01$) emerged between the approach used and the occurrence of postoperative complications, less frequent in LP and RALP e.g. OP vs LP ($p_{bonferroni}<0.001$), OP vs RALP ($p_{bonferroni}<0.001$). Substantial evidence resulted between antibiotic and antalgic therapy duration compared to surgical strategy ($p<0.001$). Chi-square test demonstrated correlation ($p< 0.05$) between complication's type and surgical approach. 34.4% of the sample (21 cases) had non-favourable outcome, being the operative approach relevant ($p<0.05$). Restenosis occurred in 8 cases (mean 19.38 months post-surgery). While the type of procedure showed no relation ($p>0.05$) to restenosis' occurrence, it revealed correlation ($p<0.05$) with the need of reintervention.

Conclusions:
Despite their limitations and longer operative time, LP and RALP cut the duration of hospitalization, antibiotic, antalgic therapy and are less prone to cause complications compared

to non-MIS techniques. RALP resulted the best approach for long-term outcome. A wider patient population is needed to evaluate correlations between procedures' type and outcomes.

Keywords:
Pediatric surgery, pediatric urology, surgical outcome, ureteropelvic junction obstruction, MIS techinques pyeloplasty

Exploring Accessory Atrioventricular Pathways: Insights into Arrhythmogenesis and Clinical Implications
-Case Report-

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Introduction:
Accessory atrioventricular (AV) pathways, often referred to as bypass tracts, represent an intriguing aspect of cardiac electrophysiology, contributing to various arrhythmias with diverse clinical manifestations.

Case presentation:
The case involves a 36-year-old man presenting to the emergency department with palpitations and fatigue, symptoms abruptly onset 30 minutes ago. From his history, we note similar episodes of short-duration palpitations spontaneously resolved. The patient was not on any treatment. The EKG recording reveals irregular tachycardia with wide QRS complexes and rapid heart rate of 250bp/min. Pharmacological treatment with beta-blockers and class III antiarrhythmics is administered, but the patient experiences hemodynamic instability with a decrease in blood pressure, in need of electrical cardioversion. The EKG appearance indicates the presence of an accessory atrioventricular pathway. Treatment with IC class antiarrhythmics is chosen, under which the arrhythmia ceases. The patient undergoes an electrophysiological study indicating a right-sided accessory pathway inserted at the ostium level of the coronary sinus. Radiofrequency ablation is performed, resulting in the disappearance of any conduction through the accessory pathway.

Discussions:
Patients with accessory atrioventricular pathways may present with life-threatening tachyarrhythmias. Rapid diagnosis, identification of severity markers on EKG, and optimal therapy selection are necessary.

Keywords:
Accessory Atrioventricular Pathways, EKG, Radiofrequency ablation

Follow-Up on Nephrotic Syndrome as a Possible Indicator of Colonic Cancer

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Introduction:
The idea of paraneoplastic syndromes includes a range of secondary clinical manifestations arising from the secretion of biologically active substances by cancer cells. Initially proposed by Galloway in 1922, this idea was sparked by his observation of a correlation between nephrotic syndrome and Hodgkin's disease. Within this framework, paraneoplastic glomerulopathies have emerged as a distinct subset. Here, we describe the case of a 44-year-old Caucasian male with a history of smoking (equivalent to 22 pack-years) and chronic alcohol consumption, shedding light on the association between nephrotic syndrome and colon cancer.

Case Presentation:
Clinically, the patient exhibited abdominal distension, edema in the genital and leg regions, and no prior medical history. Laboratory analyses revealed indicators of an inflammatory syndrome (ESR=110mm/h), along with hypoproteinemia, hypertriglyceridemia, hypercholesterolemia, and a total urinary protein excretion of 12,500mg/24 hours. Once the diagnostic criteria for nephrotic syndrome were fulfilled, our attention turned towards determining its primary or secondary nature. Notably, the presence of an inexplicable inflammatory syndrome and elevated tumor marker levels prompted a thorough imaging examination. Subsequent colonoscopy identified a polyp, prompting towards a biopsy. Histopathological assessment confirmed adenocarcinoma. Surprisingly, the symptomatic manifestation of nephrotic syndrome served as the sole clinical indicator of the underlying colonic cancer, enabling its early detection. A later renal biopsy revealed a stage 3 membranous nephropathy.
Our research underscores the significance of nephrotic syndrome as a potential marker for concealed malignancy. In this instance, the manifestation of nephrotic syndrome symptoms was the only clinical indication of colonic cancer, ultimately leading to its detection. This emphasizes the need to acknowledge that various unexplained symptoms within an inflammatory framework might signal a paraneoplastic syndrome.

Discussions:
This case serves as an illustration of how renal pathology can play a pivotal role in diagnosing associated systemic cancers. It underscores the intricate connection between paraneoplastic glomerulopathy and malignancy.

Keywords:
nephrotic syndrome; colonic cancer; paraneoplastic syndrome; membranous nephropathy;

IgM, C1q and C3 deposits in minimal change disease correlated with multiple relapses

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Introduction:
Minimal change disease (MCD), which typically presents with nephrotic syndrome (NS), is characterized by the absence of glomerular lesions by light microscopy (or only minimal mesangial prominence) and absence of staining on immunofluorescence microscopy (or low-intensity staining for C3 and IgM) while electron microscopy reveals foot process effacement with no electron-dense deposits. Adults with initially steroid-responsive MCD with NS and immune deposits will manifest frequent relapses, some of which display 'steroid dependency,' with recurrences of NS soon after discontinuance of steroids or during the tapering phase of treatment.

Case Report:
A 42-year-old woman came to the clinic with the complaint of generalized swelling, increasing in weight, frothing of urine and fatigue for 2 months. From previous medical history, she was diagnosed with hypertension 4 months before the onset of the symptoms.
After preliminary investigations, nephrotic syndrome was diagnosed and an indication for renal biopsy was suggested. Electron microscopy revealed diffuse effacement of foot processes of visceral epithelial cells suggesting MCD and the immunohistochemistry revealed presence of IgM, C1q and C3 mesangial deposits. The patient started treatment with Prednisone and obtained complete remission within 6 months while also stopped taking it shortly after. Two years later, symptoms reoccurred and a new treatment with Cyclosporine was initiated as a solution for corticosteroid resistance. Cyclophosphamide treatment was not selected because of the lack of compliance for a longer treatment. Two more discontinuations from the patient prolonged the total period of disease and aggravated progressively the status of the patient.

Discussions:
There is a suggestion that MCD with IgM, C1q and C3 deposits is correlated with multiple relapses and steroids resistance highlighting the need for more efficacious agents for treatment

Keywords:
minimal change disease, corticosteroid resistance, autoimmune deposits

Review: Importance of the Sonic Hedgehog protein (SHH) in neurulation. What we know and how it can be beneficial?

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Keywords:
SHH; neural tube pattern; embryogenesis; notochord.

Background:
The Sonic Hedgehog protein (SHH) is a signaling molecule that controls organogenesis and the organization of the central nervous system, through its regulatory action in the hedgehog signaling pathway. The notochord produces SHH, which dictates the patterning of neural progenitors and promotes the proliferation and differentiation of specific neuronal subtypes of the neural tube during embryonic development. Dysregulation of the SHH pathway at this stage can cause holoprosencephaly. We aim to highlight the molecular mechanisms and the significance of the SHH protein in neurogenesis.

Materials and Methods:
An extensive search of the English medical literature was conducted in PubMed, ResearchGate, Frontiers and Science Direct. The 14 relevant papers were selected from 252 resulted articles. We have ensured the validity and credibility of the chosen papers by carefully examining their contents and findings.

Results:
This study highlights the importance of SHH as a pivotal regulator in the process of neurulation. Based on the data collected, we can state clearly the mechanism and principles of action of the SHH protein like:
The SHH pathway that transmits information to embryonic cells is required for proper cell differentiation
The concentration gradient in which different concentrations of SHH signals can lead to the specification of distinct neuronal subtypes (e.g. motor neurons in the ventral spinal cord and interneurons in the ventral forebrain)
The processes regulated by the SHH range from axial patterning to cell proliferation and differentiation.

Conclusion:
This review of the medical literature provides an in-depth analysis of the role of Sonic Hedgehog in neural cell differentiation. These findings serve to further our comprehension of the intricate mechanisms of neurogenesis, which can pave the way for future research in gene therapy or for developing valuable screening tests for neurological disorders.

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In vitro cytotoxic activity of NK cells on SK-BR-3 breast cancer cell line

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Coordinator: Assist. Prof. Daniela Serban, MD, PhD student

The revolutionary impact of cancer immunotherapy has changed the perspective in cancer treatment, introducing promising approaches like tumor-infiltrating lymphocyte (TIL), T cell receptor (TCR)-modified T cell, and chimeric antigen receptor (CAR) T cell therapy. Nevertheless, cytotoxic capacity of cancer patient own immune system still needs more investigations.
The objective of this study was to investigate the cytotoxic ability of NK cells *per se* in an *in vitro* study performed on breast cancer cell line SK-BR-3. The study aimed at using a dedicated device (Holomonitor M4) for laser profilometry in order to evaluate the effect on migration and viability of tumor cells. In order to perform the experiments, NK92 cell line (effector cells) and SK-BR-3 tumor cell (target cells) were used in separate experiments, followed by co-culture for 24 hours and time-lapse laser profilometry recording of the cellular migration. For a better adherence to the culture plate, both cellular types were cultivated on fibronectin-coated plates, which provided firm adhesion and directionated movement.
Data analysis revealed that SK-BR-3 cells cultured on fibronectin have a centripet migration tendency, while the NK92 cells have a more chaotic movement. Moreover, NK92 cells tend to maintain their tendency to agglutinate and formation of large cellular aggregates, thus having a limited free movement. For the cytotoxic effect of NK92 cells on tumor cells, the effector to target ratio was 10:1. When co-cultured, both cellular types have a more limited migration ability, while the cell number suffers small changes during the 24 hours duration of the experiment. Using the HStudio interpretation software, we concluded that NK92 cell line has a reduced cytotoxic effect on solid tumor cells, and these results lead to the conclusion that in order to be effective on tumor cells, we need to enhance the cytotoxic ability of effector immune cells, maybe using a chimeric antigen receptor strategy.

Keywords:
NK cells, SK-BR-3 breast cancer, cytotoxicity, migration and motility, immunotherapies

In Vitro Evaluation of Cytotoxic Effect of CAR-NK Cells-Derived Exosomes

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Introduction:
Natural killer (NK) are immune cells which display rapid and potent cytotoxicity without prior priming or antigen recognition. Chimeric antigen receptors (CAR) are fusion proteins transfected into NK cells, combining antigen-binding and activating functions into a single receptor. Exosomes (Exo) are extracellular vesicles with an average 100 nm diameter generated by all nucleated cells.
Our research aims to demonstrate the cytotoxic activity of exosomes generated by NK and CAR-NK cells, as well as the enhancement of specificity and efficacy against CD19-positive cells (NALM-6) related to the presence of anti-CD19 CAR on the surface of NK cells.

Methods and Materials:
To validate the aforementioned hypothesis, we started the experiments by cultivating four cell lines: NK- 92 and NK-92 with anti-CD19 CAR as effector cells and NALM-6 and K562 as target cells. We then subjected the effector cells to a stressful setting in order to facilitate the generation of exosomes, which were isolated using density gradient and magnetic beads.
Further characterization of the exosomes was a challenge because of their small size. To overcome this issue, we utilized electron microscopy to analyze their structure and flowcytometry for immunophenotyping. Finally, we performed a cytotoxicity test by placing exosomes in contact with target cells.

Results:
The presence of the exosomes isolated using both of the previously mentioned methods was confirmed by electron microscopy. Regarding the immunophenotypic assay, we discovered that CAR-NK and NK Exo exhibit the same membrane markers, investigated via the MACSPlex Exosome Kit. Here, we highlight two exosome-specific markers - CD63 and CD81 as well as CD56, which is specific to NK cells. Interestingly, CD9, another exosome-specific marker, was not present on the surface of either CAR-NK or NK Exo.
According to the flowcytometric cytotoxicity assay results, both target cell lines exhibited necrosis in the presence of NK Exo and the effect was amplified for NALM-6 (CD-19 presenting) in the presence of the CAR-NK Exo.

Conclusions:
In conclusion, our results showed that NK-derived exosomes exhibit a cytotoxic effect against target cells, which is enhanced by the existence of the specific CAR, suggesting that CAR-NK Exo may represent an effective therapy for a variety of malignant tumors.

Keywords:
NK cells, CAR-NK cells, exosomes, cytotoxicity, anti-tumor therapy

In vivo behavior of 3D bioprinted tumor tissue models

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Background:

New technologies of 3D bioprinting can mimic with a considerate precision the tumoral microenvironment (TME) found in vivo, allowing for a better understanding of tumor progression and also drug testing. Even if 2D tumor models can fulfill the same purposes, they can't replicate the interactions between tumor cells and stromal cells or TME.

Scope:

This study's main purpose is to compare the evolution predictability of in vitro and in vivo implanted bioprinted models using simulation programs.

Materials and Methods:

Three stratified and toroid 3D models were designed and assembled using extrusion bioprinting. The tumoral cell line chosen for this experiment called SK-BR-3, a type of breast adenocarcinoma with HER2/neu overexpression, was printed along a polysaccharide hydrogel. Some models included TME containing tumor- associated fibroblasts (TAF) and peripheral blood mononuclear cells (PBMC). One or more cultures, depending on the size, were then incorporated in two paravertebral, subcutaneous pouches prepared for each mouse after anesthesia. After an incubation period of 8 and 28 weeks respectively, the tumors were extracted. During cryosectioning, fixation and staining it could be observed a greater mechanic resistance in tumors with TAF and PBMC. Combining hematoxylin and eosin staining with immunohistochemistry (Ki67, pancytokeratin, vimentin and HER2) helped to determine the survival, cell proliferation and also visualizing the changes in the tumoral architecture.

Results:

Even if the common result was the clustering of TAF around cancer cells, the computer simulations described a relative uniform distribution, while the experiment showed the migration of fibroblasts into a monolayer that stratified in time, forming a capsule around dens malignant aggregates.

Conclusions:

3D bioprinting proved to imitate accurately the structure and physiology of malignant tumors both in vitro and in vivo. Also the impact of fibroblasts on tumoral organization and growth might change the chemotherapy targets in the future, as they are limited to cancer cells nowadays.

Keywords:

breast cancer, extrusion bioprinting, in vivo 3D tumor models, simulation programs

Laparoscopic fasciotomy for abdominal compartment syndrome

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Keywords:
Laparoscopic Fasciotomy, Abdominal compartment syndrome, Pancreatitis secondary to hypertriglyceridemia

Background:
Abdominal compartment syndrome (ACS) is a severe condition referring to an intraperitoneal pressure that surpasses 20mm Hg. If left untreated, persistently high intra-abdominal pressures (IAP) can be potentially deadly and lead to long-term organ damage. Surgical treatment for ACS involves decompressive laparotomies, followed by employment of various barrier methods in order to reduce external contamination and fluid loss. Introducing laparoscopic fasciotomy, an innovative surgical technique for treating abdominal compartment syndrome, we reduce the intra-abdominal pressure and also lower the risk of complications of laparotomy, such as nosocomial infections.

Clinical case:
Here we report on a novel technique used on a patient who was initially evaluated for an atypical moderate to severe acute pancreatitis secondary to hypertriglyceridemia, which rapidly progressed to abdominal compartment syndrome. 40 years old patient C.A, sex F, coming from an urban environment, W=80kg, h=174 cm, IMC= 26.4 kg/m2, without any history of allergies, was examined. She presented in the emergency room with severe abdominal pain with acute onset, nausea and vomiting. She was admitted to the intensive care unit with the diagnosis of severe acute pancreatitis secondary to hypertriglyceridemia. Given the rapid development of abdominal compartment syndrome, a laparoscopic decompressive fasciotomy has been performed. Gas was insufflated in the retro-rectus space. Dissection was advanced cranio-caudally until the whole retro-rectus space was opened. A midline incision was made alongside the Linea alba to increase the abdominal cavity's volume.

Conclusion:
The initial values of the tests lowered immediately after the surgery. The following day, the patient's IAP was 12 mm Hg. Laparoscopic fasciotomy may provide improved outcomes for selected ACS patients, by offering better outcomes through less wound morbidity and reduced length of stay in the ICU.

Lynch associated breast cancer diagnosed by NGS germline panel

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Introduction:
Lynch Syndrome is a rare, autosomal dominant hereditary cancer syndrome, caused by mutations in the MMR (DNA mismatch repair) genes MLH1, MSH2, MSH6, PMS2 or by deletions in an EPCAM gene. Patients with Lynch Syndrome present high microsatellite instability, MSI-H, having cancer predisposing phenotype.

Case presentation:
We report the case of a 49-year old woman, premenopausal, with a family history positive for endometrial cancer. The patient's oncological history began in May 2023, when a mammography, followed by an ultrasound revealed minimal architecture distortion in the right breast. The histopathology exam confirmed a Luminal A invasive breast carcinoma.
Given the discovery of the tumour at an early stage, along with the particularity of three family members being diagnosed with endometrial cancer, genetic testing was the next step taken. The Oncotype Dx multigene test showed an RS (recurrence score) of 16, chemotherapy presenting lower than 1% benefits for this patient. Following the NGS- (Next Generation Sequencing)-based germline panel test, a heterozygous mutation in MSH6 was discovered, which led to the final diagnosis of Lynch Syndrome.
The patient underwent hormone therapy (with Tamoxifen combined with Goserelin) for months, followed by Breast conserving surgery and SNLB. Adjuvant treatment included External Beam Radiation Therapy and Hormone Therapy.

Discussions:
This case is unique due to the convergence of two significant factors: the discovery of MSH6 mutation in a patient with breast cancer and the subsequent diagnosis of Lynch Syndrome. The rich family history of endometrial cancer emphasises the importance of genetic testing in uncovering hereditary cancer syndromes, shedding light on a lesser-known, yet critically important association between breast cancer and Lynch Syndrome.

Keywords:
Lynch Syndrome, Breast Cancer, MSH6, NGS, Oncotype Dx, Hormone Therapy.

Management of a Patient with Severe Anemia: Etiology and Comorbidities – Case Report

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Introduction:
Severe anemia can be a sign of a variety of underlying conditions, including gastrointestinal bleeding. Iron-deficiency anemia is defined by a deficiency of iron in the body, leading to volumetric, tensional, and nutritional imbalances in the patient.

Case Report:
A 73-year-old female patient is admitted for the following symptoms: pale skin, fatigue, epigastric pain, abdominal discomfort, and heartburn. Laboratory tests reveal low levels of hemoglobin (4.8 g/dl), mean corpuscular volume (MCV) of 71.2 fl, and hematocrit of 16.1%. Additionally, serum iron levels are found to be 17 ug/dl, confirming the diagnosis of iron-deficiency anemia. The patient is known to have atrial fibrillation and is on treatment with Trombostop 2mg. Coagulation times are found to be prolonged upon examination. The patient is administered treatment with injectable iron preparations (Ferinject), and upper gastrointestinal endoscopy and colonoscopy are performed for further investigation of the digestive tract. Endoscopy results reveal the presence of a partially stenosed gastric tumor associated with local bleeding, which is biopsied.

Discussion:
Gastric tumor can be associated with chronic bleeding, which can be a cause of severe anemia. In our case, the partially stenosed tumor could also contribute to the abdominal discomfort symptoms reported by the patient. Evaluation and appropriate treatment of the gastric tumor are essential for preventing recurrence of bleeding and improving patient prognosis. The particularity of the case lies in identifying a gastric neoplasm biologically revealed by the presence of anemia, possibly associated with chronic anticoagulant treatment. This case underscores the importance of a holistic approach in diagnosing and managing patients with severe anemia and concurrent gastrointestinal pathology, aiming for early identification of the anemic syndrome and its proper management.

Keywords:
Iron-deficiency anemia, gastric tumor, anticoagulant treatment, bleeding

Microbiological patterns in pancreatoduodenectomy - a single center analysis

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Introduction and objective of the study:
This study aimed to provide profiles of microorganisms isolated from bile and antibiotic susceptibility patterns of biliary tract infections (BTIs) in patients post pancreatoduodenectomy in our center.

Material and methods:
A total of 16 patients who underwent billiary surgery from january 2023 to march 2024 were included in this study. Bile samples were collected during the intervention in order to characterize pathogen spectra and antibiotic susceptibility. Clinical data including age, sex, history of billiary fistula, evolution and treatment were collected from hospital medical records. Species identification and initial drug susceptibility were further identified by biochemical characterization using the VITEK test.

Results:
Positive microbial findings were observed in 10 samples with 17 strands of microorganism being isolated. Among these, 82,3% were Gram-negative and 17,6% Gram-positive. The most common microorganisms were *Klebsiella pneumoniae, Escherichia coli*, and *Enterococcus faecalis*. 29,4% of strands were multidrug-resistant. Our study showed a correlation between the patients who previously underwent the implantation of a billiary stent and the growth of multidrug-resistant bacterial strands (80%). A total of 11 patients developed a billiary fistula and out of those, 36,4% required reintervention with a mortality of 50%.

Conclusions:
Our study showed an increase in multidrug-resistant bacterial strands. In order to decrease the number of billliary fistula and reinterventions, a change in perioperative antibiotic strategy might be useful for patients undergoing pancreatoduodenectomy.

Motor functional deficit associated with a stress reaction. Neurological or psychiatric pathology?

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Introduction:
The detection of a motor disorder necessitates procedures aiding in the diagnosis of neurological pathologies, for instance, to exclude a progressively intensifying degenerative lesion such as multiple sclerosis. Furthermore, the present case demonstrates the imperative necessity for a multidisciplinary approach in each case for accurate and comprehensive diagnosis.

Case presentation:
A 13-year-old female patient presents to the pediatric neurology department complaining of agitation during sleep, startles in response to stress, intermittent headaches with variable localization, and severe walking disturbances in the left lower limb with slight motor functional deficit. Additionally, she experiences pain upon mobilization of the right upper limb, hindering movement coordination and writing. Neurological examination reveals positive paresis tests for the left lower limb and right upper limb. There is observed dysmetria in the heel-to-knee test with positive bilateral Noica sign, more pronounced on the left side. Brain and cervico-dorso-lumbar spine MRI examinations show no abnormalities. Blood tests show no significant changes, except for a highly positive ASLO test, with negative rheumatoid factor. Psychological examination describes good average intellectual level with very good academic performance, but the patient currently exhibits an affective reaction to her illness, struggling to manage the situation. She demonstrates low frustration tolerance with reactive behavioral manifestations.

Discussions:
Clinical suspicion initially leaned towards a possible demyelinating disease (multiple sclerosis); however, the diagnosis was not supported in this regard. Despite complex treatment including corticosteroid therapy, depletion, physiotherapy, and kinetotherapy, the clinical picture did not improve. Interestingly, amidst suspicion of various neurological pathologies, the issue of a conversion disorder also arose. This psychiatric pathology presents with multisystemic symptoms, affecting contractile function. Bilateral neurological involvement associated with chronic psychological stress experienced by the patient could be conditions leading to the diagnosis of a conversion disorder.

Keywords:
Multiple sclerosis, ASLO test, conversion disorder, chronic psychological stress

Na^+/K^+ Pump Blockers Repurposed for Anti-Tumor Therapy

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Introduction:
Over the past decade, the landscape of cancer treatment has undergone significant expansion. Despite this progress, the average lifespan of cancer patients remains disappointingly short. While cardiac glycosides like Ouabain have historically been utilized in heart failure treatment, their potential in cancer therapy remains largely unexplored. This study aims to explore the potential of repurposing Ouabain as a therapeutic approach for cancer treatment.

Methods and Materials:
The research methodology involved culturing SK-BR-3 mammary gland cancer cells, known for their overexpression of Her2 receptors. Flow cytometry, coupled with side scatter analysis, was employed to assess alterations in immunophenotypic markers of the SK-BR- 3 cells, such as CD29, Her2 and VEGF-R2. The viability of cells exposed to Ouabain was evaluated using Annexin V / PI staining, while the cell cycle of tumor cells was assessed with CycleTEST PLUS DNA Reagent kit. For Na^+/K^+ pump subunits expression, RNA extraction was followed by RT-PCR. Immunohistochemistry was employed to analyze the expression of Ki67 in Ouabain-treated cells.

Results:
The findings revealed notable reductions in Her2 receptor expression, with decreases observed from 95.15% to 94.3% (10^{-8} M) and 65.67% (10^{-6} M). Similarly, integrin 1 (CD29) expression decreased from 86.17% to 58.22% (10^{-8} M) and 48% (10^{-6} M). Proliferation assays demonstrated a significant increase in apoptotic cells, rising from 6.15% to 75.67% over a 24-hour period. Variable expression of alpha1 and alpha2 subunits of the Na+/K+ pump, accompanied by a marked decrease in beta1 subunit expression was shown by RT-PCR for all Ouabain concentrations. Immunohistochemistry analysis displayed a marked decrease in Ki67 expression from 61.68% to 19.31% ($p < 0.001$).

Conclusions: In conclusion, this study highlights the potential effectiveness of Ouabain as an anti- tumoral agent targeting cancer cells. Notably, the effects of Ouabain were found to vary depending on dosage, suggesting avenues for further investigation and optimization in therapeutic applications.

Keywords:
cancer, Ouabain, SK-BR-3 cells, drug repurposing, anti-tumor, Her2, Ki67

Navigating complexities of dic: insights from a pediatric case of lymphohistiocytosis

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Introduction:
Hemophagocytic Lymphohistiocytosis (HLH) is characterised by overactive histiocytes and lymphocytes, more commonly seen in pediatric patients. While the signs and symptoms are not specific, there are at least five diagnosis criteria needed : fever, splenomegaly, pancytopenia, hypofibrinogenemia (or hypertriglyceridemia) and hemophagocytosis.

Case Report:
An 11-year-old male patient presented with fever, odynophagia, and cervical adenopathy, leading to hospitalization for Infectious Mononucleosis, specific treatment being initiated. After four days, jaundice was noted during clinical examination, accompanied by laboratory findings indicative of hepatic cytolysis syndrome, coagulopathy, cholestasis, and pancytopenia. Although a first bone marrow biopsy was performed to rule out malignancy, the results remained within normal limits. Additional imaging findings supported hepatocytolysis syndrome. Despite treatment with intravenous albumin and immunoglobulins, the patient's condition deteriorates. Laboratory testing revealed severe anemia (hemoglobin: 6,1 g/dL), thrombocytopenia (88 x 10^3/µL), unmeasurable fibrinogen, Prothrombin Time (PT) and Activated Partial Thromboplastin Time (aPTT). To identify the possible cause of these values, the laboratory performs a plasma normalization test, confirming coagulation factor deficiency and raises the suspicion of Disseminated Intravascular Coagulation (DIC).
Although not initially confirmed by clinical examination, the patient's state aggravated once again, prompting D-dimers measurement (3170 /5469 /8177 ng/mL) and treatment initiation with enoxaparin. After a series of investigations, HLH secondary to Ebstein Barr virus infection is diagnosed, considering the hematological and clinical presentation (numerous bone marrow macrophages exhibiting hemophagocytosis). The treatment with Etoposide, following guidelines, is initiated, and the patient is transferred to the Fundeni Clinical Institute of Bucharest.

Discussions:
Effective communication between clinicians and laboratories is essential, especially in managing complex pathologies. Interdisciplinary collaboration facilitates a comprehensive understanding of the patient's condition and informed treatment decisions. This case aimed to highlight the importance of fast management and appropriate laboratory results interpretation when encountering unusual results and cases.

Keywords:
Hemophagocytic Lymphohystiocitosis, Activated Partial Prothrombin Time, Disseminated Intravascular Coagulation

Navigating recurrent hepatic abscesses: a multidisciplinary approach and case study

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Coordinators: University Professor Doctor Ciprian Tanasescu, Assistant Professor Doctor Mihai Faur, Assistant Professor Doctor Andrei Moisin

Introduction:
Hepatic abscess is a severe inflammatory condition characterized by the formation of purulent collections within the hepatic parenchyma. The recurrence of this pathology represents a complex clinical problem that requires thorough evaluation and appropriate management. Delaying paraclinical investigations may lead to recurrences, necrosis, and other associated infections.

Case Presentation:
We present the case of a 68-year-old patient with a history of recurrent hepatic abscess in the left lobe, initially presenting to the emergency department with symptoms of persistent fever and syncope. The patient was admitted for specialized investigations and treatment, presenting during clinical examination with a supple abdomen, tender to palpation in the right hypochondrium, associated with persistent febrile syndrome. Imaging and biological investigations revealed the presence of hepatic necrosis, thrombocytopenia, and Klebsiella Pneumoniae infection, in addition to pre-existing complications such as gallbladder and choledochal lithiasis. Treatment included medical therapy and hydroelectrolytic rebalancing, with favorable evolution under medical supervision.

Discussions:
The presented case highlights the complexity of managing hepatic abscesses and associated complications. It is noteworthy that during the initial hepatic drainage procedure, the pathogen was not identified, but was later discovered in subsequent investigations. We cannot definitively state a causality relationship between infection and abscess. The treatment of choice, which includes antibiotic therapy and interventional procedures, is essential for infection control and preventing recurrences.
Recurrent hepatic abscess represents a clinical and therapeutic challenge, requiring an integrated and personalized approach. The presented case underscores the importance of multidisciplinary evaluation and treatment, as well as the need for careful monitoring to achieve favorable outcomes for patients.

Keywords:
Hepatic Abscess, Hepatic Necrosis, Infection Control

Navigating through ventricular arrhythmias. From gene to disease

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Introduction:
Arrhythmogenic right ventricular dysplasia (ARVD) is a cardiac disorder marked by the substitution of myocardium with fibrofatty tissue, predominantly affecting the right ventricle. Despite its rarity, ARVD poses a significant clinical challenge due to varied presentations and the risk of causing malignant ventricular arrhythmias among apparently healthy young subjects, occasionally leading to sudden cardiac death.

Case presentation:
We present the case of a 27-year-old male patient, with no relevant familial medical history, who was admitted after recurring episodes of sustained monomorphic ventricular tachycardia and idiopathic ventricular extrasystoles, originating from the right ventricular outflow tract (RVOT), whilst hemodynamically stable. Following successful pharmacological conversion to sinus rhythm, a radiofrequency ablation procedure was performed, with no ventricular arrhythmic events detected during the one-month follow-up session.
Echocardiography, along with two distinct cardiac MRI scans, revealed no structural abnormalities or indications of fibrosis, with the sole mention that, the right ventricle was slightly enlarged. Despite the absence of major or minor diagnostic criteria, the heightened dimensions of the RV, coupled with ventricular arrythmias originating from the RVOT, prompted suspicion of ARVD.
The patient underwent genetic testing, revealing positive results for Plakophilin-2 (PKP2), facilitating the diagnosis of ARVD. Since no structural modifications were identified, it suggests that the diagnosis of ARVD was made during its "electrical phase," before positive diagnostic criteria had fully manifested.
Following the refusal to undergo an ICD implant, the patient experienced a cardiac arrest during a football match, followed by successful resuscitation. Subsequently, a single-chamber cardiac defibrillator was implanted under local anaesthesia, without any procedural complications. Additionally, no arrhythmias were identified during the 6-week postoperative follow-up examination.

Discussions:
Despite the absence of structural abnormalities initially detected through imaging investigations, as well as the lack of major and minor diagnostic criteria, this case presents the unique instance of a genetic ARVD diagnosis in its electrical phase. This case serves as a poignant reminder of the potential life-threatening consequences of ARVD in young patients, whilst underscoring the necessity for comprehensive treatment strategies to improve the outcomes in ARVD management.

Keywords:
Arrhythmogenic right ventricular dysplasia (ARVD), Ventricular arrhythmias, Genetic testing, PKP-2

Navigating Treatment Challenges: Ankylosing Spondylitis in the Context of Inflammatory Bowel Disease

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Introduction:
Ankylosing spondylitis is one of the major forms of chronic inflammatory arthritis and the 'prototype disease' for the spondyloarthritides, a group of interrelated and overlapping chronic inflammatory rheumatic diseases. Approximately 5–10% of ankylosing spondylitis patients have concomitant inflammatory bowel disease, either Crohn's disease or ulcerative colitis.

Case Presentation:
We report the case concerning a 47-year-old gentleman who sought medical attention in October 2021 due to anal purulent secretions and diarrhea (4-5 liquid stools per day, without blood). He denied experiencing abdominal pain, fever, or vomiting. His medical history included ankylosing spondylitis axial form (diagnosed in 2013), left perianal abscess, idiopathic leukocytosis (diagnosed in 2019), grade II hypertension, chronic ischemic heart disease, aortic and tricuspid insufficiency grade I and stage II NYHA IVS. There were no significant familial medical history findings. As medication, he was prescribed Vimovo 500/20 mg and Detrical 2000 IU once daily. The patient, a heavy smoker (20 cigarettes per day), reported no alcohol consumption. Physical examination revealed left postero-lateral perianal induration with a postoperative scar and an adjacent fistulous opening approximately 1.5 cm from the anus. Laboratory analyses indicated elevated CRP and ESR levels along with leukocytosis. Stool microbiological studies, including bacterial and parasite cultures, returned negative results. A subsequent colonoscopy identified an inflammatory stenosis and ulceration at the terminal ileum, multiple rectal ulcers and a perianal abscess. Biopsy results indicated indeterminate chronic colitis. Ultrasound findings showed four fistulae and CT imaging revealed diffuse parietal thickening at the distal ileum with inflammatory mesenteric adenopathies. Paraclinical findings led to the diagnosis of moderate to severe ileocolonic Crohn's disease (A3 L3 B2 Montreal classification). The patient underwent surgical treatment for the abscesses and commenced biological therapy with Infliximab. His clinical course showed favorable outcomes with remission of Crohn's disease symptoms both clinically and endoscopically.

Discussions:
The therapeutic strategies for managing ankylosing spondylitis linked with inflammatory bowel disease pose difficulties due to the possibility of triggering or worsening these conditions. Evidence derived from clinical case series indicates that anti-tumor necrosis factor (TNF) agents, notably infliximab, demonstrate effectiveness in comparison to other biological treatments such as Etanercept or Adalimumab.

Keywords:
Crohn's disease, ankylosing spondylitis, anti-tumor necrosis factor, infliximab

Next-Generation Sequencing for Cancer Immunotherapies and Immunogenic Epitopes Prediction

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Introduction:
Next-generation sequencing (NGS) is one of the most important technical developments in medicine, integrating high-throughput sequencing into clinical practice and enabling new approaches for cancer diagnosis and treatment. NGS-based immuno-oncology applications with high clinical relevance include TCR, BCR, mutational, and epigenetic profiling, serving as tools for prognostics, monitoring, and therapy. Current methods of tumor analysis can reveal new epitopes that are potential targets for the immune system. The manipulation of the immune response has promising applications in oncology by boosting the ability of the immune system to target cancer or by limiting the ability of tumors to evade the natural immune response.

Methods and Materials:
Using a computational pipeline for selecting cancer-specific peptides and identifying mutations, we predicted the neoantigen sequences that could be included in a personalized vaccine.
First, we used Oncomine Pan-Cancer Cell-Free Assay to identify the mutations most frequently associated with tumor initiation and progression. Applying the Deimmunization algorithm from IEDB, we identified the immunogenic regions in wild-type proteins and mutant proteins, followed by testing for MHC I class affinity, TAP, and proteosomal cleavage. The epitopes selected were analyzed using the most frequent HLA alleles in Romania. Moreover, by sequencing samples of tumoral tissue and peripheral blood, we excluded germline mutations and identified mutation-based therapies with potential benefit.

Results:
The aim of personalized cancer vaccines is to elicit a strong, tumor-specific immune response, while minimizing the adverse effects. The first step in the creation of a personalized vaccine is the identification of the neoantigens, which is crucial for its efficiency. For the studied cases, we obtained a number of 2–10 potential neoepitopes that could be used to prime the immune system to attack the tumor. These results enable optimized drug selection and tailored treatment plans.

Conclusions:
Targeted therapy development is strongly linked to the technological advances in NGS. Since normal cells lack the tumorigenic mutations that are exploited for drug targeting, this type of therapeutic approach can drastically improve treatment and patient outcomes.

Keywords:
Next Generation Sequencing (NGS), neoantigens, precision medicine, mutation- based therapy

Optimizing surgical strategies: the importance of imaging in cholecystitis management

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Introduction:
Cholecystitis, the acute or chronic inflammation of the gallbladder, represents one of the most common biliary conditions encountered in clinical practice. It is associated with serious complications such as acute gangrenous cholecystitis or gallbladder perforation, requiring prompt and appropriate management. In this context, imaging plays an essential role in early diagnosis and optimal management of cholecystitis.

Case Presentation:
A 74-year-old man with a history of chronic hepatitis and chronic gastritis presents to the emergency department with diffuse abdominal pain, nausea, and bilious vomiting, symptoms that worsened over the last 48 hours. Patient admission and appropriate medical treatment lead to partial symptom improvement. Subsequent imaging investigations establish the diagnosis of complicated acute cholecystitis. After a few days, the patient undergoes exploratory laparoscopic surgery. During the procedure, adhesions between the liver and the abdominal wall, as well as between the stomach and the liver, are identified, making visualization and manipulation of the gallbladder difficult. Upon exploration of the abdominal cavity, a scleroatrophic gallbladder with a thin and short cystic duct is observed. Electrodissection of the gallbladder from the hepatic bed is performed, with identification of a dilated common bile duct with arterialized walls, which is isolated, clipped, and sectioned. The patient is discharged after 4 days without complications.

Discussions:
The presented case highlights the complexity of cholecystitis diagnosis and management, with emphasis on the essential role of imaging assessment in surgical management. Pronounced dilation of the common bile duct may suggest the presence of biliary obstruction or associated complications. Adequate imaging allows for more precise surgical planning, facilitating identification and correct management of anatomical anomalies and associated complications. In conclusion, this case highlights the importance of a multidisciplinary approach and the use of modern imaging technologies in the management of cholecystitis and other biliary conditions.

Keywords:
Common Bile Duct, Cholecystectomy, Imaging

Pitfalls in diagnosing mesenchymal fibrohistiocytic tumors

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Introduction:
Fibrohistiocytic tumor indicates a lesion with mesenchymal origin, composed of fibroblasts and histiocytic cells (resembling activated tissue macrophages, lipid-laden cells), and there are three categories according to their degree of malignancy: benign lesions, lesions of intermediate malignancy and malignant lesion.

Case presentation:
51 year old male, without personal pathological history, was admitted by the surgical team for excision of a tumoral mass on the thigh of the left lower limb, without any other tumoral signs at the clinical examination. Considering the macroscopic aspect of the tumoral mass was diagnosed intraoperatively with Soft Tissues Tumor. The surgical outcome was good, patient was discharged in a good general condition, with rest and limited physical effort recommendation.
Histopathological result reveals: macroscopic the mass presents a capsule with areas of discontinuity, whitish color, measure 90x70x50mm and on the cross section, a fascicular aspect, no necrosis or bleeding area; microscopic presents a mixed cell benign lesion, without atypical mitoses, with rare inflammatory cells, discontinuity of the capsule indicates risk of local recurrence.
The particularity of the case: after one month, without no other symptoms, patient presents a tumoral mass on the contralateral thigh.

Discussions:
Mesenchymal fibrohistiocytic tumor is uncommon and appear as well circumscribed small nodules (10-20mm), located in the dermis. On a clinical examination these can be misdiagnosed as lipoma or sebaceous cysts. Due the size of the tumor and the deeply infiltrative borders without the histopathological result is difficult to offer to the patient a prognosis.

Conclusions:
For this patients monitoring is a must for long term in order to identify in time if any other tumors occur, a local recurrence or distant one, as occurred in this case, and also to evaluate each tumor individually and diagnose if is a benign or malign lesion.

Keywords:
mesenchymal fibrohistiocytic tumors, benign tumors, histiocytes.

Primary retroperitoneal germ cell tumor - case report

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Medical category: Surgery

Keywords:
primary retroperitoneal germ cell tumor, extragonadal, CT, serum tumor markers, resection

Introduction:
Germ cell tumors (GCT) originate from the primordial germ cells and usually develop in the gonads (the testes and ovaries), predominantly in male pateints. Due to a possible incomplete migration of germ cells during
embryologic development, about 1-2,5% of GCTs have been reported to be of extragonadal origin (EGGCTs). These particular cases occur along the midline of the body (mainly in the mediastinum, retroperitoneum, or brain) with no
evidence of primary gonadal tumors. Although EGGCTs have the same morphology as their gonadal equivalent, they represent a rare entity that is challenging to diagnose and treat.

Case presentation:
A 46-year-old male patient presented with abdominal colic pain that debuted 7 days ago, without other associated symptoms or signs. On US, a heterogeneous lesion measuring 10 x 6 cm was found in the left hypochondrium, extending towards the epigastrum. Abdominal and pelvis CT revealed a macronodular retroperitoneal lesion with lobulated margins at the level of L2, L3, L4 vertebral bodies, confirming the diagnosis. The lesion had a slight mass effect on the aorta and left renal vein, without a plane of cleavage with them, the left psoas muscle and the left renal fascia. Specific tumoral markers did not show an increase. The patient was scheduled for open transperitoneal excision of the tumor.

Discussion:
The incidence of EGGCTs is very low, and they mostly affect men in the 4th decade of life. In many cases, an abnormal elevation of serum tumor markers can be found: AFP, hCG, LDH, respectively. Normal values do not rule out the existence of the tumor. It is essential to differentiate a primary EGGCT from a GCT metastasis (no gonadal mass should be found during US examination). Besides US, the diagnosis is further done by CT or MRI. The standard of treatment is surgical resection with clear margins.

Recurrent inguinal hernia in a young adult patient – A Case Report

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Introduction:
An inguinal hernia occurs when tissue, such as part of the intestine, protrudes through a weak spot in the abdominal muscles. Bilateral inguinal hernias occur in 6-8% of groin hernias. The recurrence rate of inguinal hernia following primary hernia repair ranges from 0.5% to 15% depending upon the hernia site, the type of repair, and the clinical circumstances. Recurrences are more common after direct inguinal hernia. However, recurrent inguinal hernia repair is challenging.

Case presentation:
We present the case of a 46-year-old male patient diagnosed with recurrent right inguinal hernia, 5 years after being operated for bilateral direct inguinal hernia through the Lichtenstein technic. The patient was athletic, but he was not a smoker and he did not have obesity.
Laboratory tests showed hypercholesterolemia. The abdominal ultrasound revealed the right inguinal hernia, while the left spermatic conduct was normally placed with mesh.
Open inguinal hernia repair was scheduled as the recurrent inguinal hernia is an absolute indication for surgery. Treatment with antibiotics, anticoagulants and analgesics was administered as pre-operative preparation. The patient underwent surgery through the Lichtenstein tension- free mesh repair, under general anesthesia. A polypropylene mesh was used.
The postoperative evolution was favorable and 3 days later the patient was discharged.

Discussions:
The ultimate measure of success of inguinal hernia repair is the rate of recurrence. The main technical factors commonly associated with early recurrent inguinal hernia are related to either a tissue repair or inadequate mesh size or fixation. Late recurrences are usually related to patient- related, defects in collagen metabolism as the patient ages. Patient factors that increase the risk for recurrent inguinal hernia are generally those that disrupt or weaken the tissues, contribute to poor wound healing, or increase the risk for postoperative infection. A higher percentage of smokers than non-smokers develop groin hernias and recurrences after repair. Other promoting factors are: old age, obesity, type of anesthesia, suture material used, way of dealing with the sac, type of repair and postoperative complications. We could not find the exact cause of recurrence in this young adult patient.

Keywords:
recurrent right inguinal hernia, bilateral inguinal hernia, Lichtenstein technic, polypropylene mesh.

Review of critical view of safety using online media: how honest are we?

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Keywords:
Critical view of safety, laparoscopy, minimally invasive surgery, cholecystectomy, laparoscopic cholesystectomy

Background:
The critical view of safety (CVS) is a technique used during a laparoscopic cholecystectomy to minimize the risk of damaging the bile duct. In essence, it is a method of clear identification of the cystic duct and artery before dissection. The key elements of achieving a CVS are clearence of the hepatocystic triangle , dissection of the gallbladder off the cystic plate, identification of two and only two of the structures. This study aims to investigate and analize how honest are we actually being about using this tool and the achievement of CVS during a laparoscopic cholecystectomy.

Method and materials:
For this study , a team of 3 general surgery specialists have analised a total of 50 videos of laparoscopic cholecystectomies posted online by multiple reputable sources and scored them according to the level of achievement of the CVS.

Results:
Out of all the 50 cases , low CVS scores during the laparoscopic cholecystectomyes analised mark more than half of the percentage of all the surgeries examined.

Conclusion:
Critial view of safety during laparoscopic cholecystectomy remains an essential tool for avoiding vasculo-biliary incidents. A full CVS is not always achieved, as shown in this study. More thorough dissection should be practised to obtain a full score.

Semiological aspects in ankylosing spondylitis
-case report-

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Introduction:
Ankylosing spondylitis is a chronic, systemic and immune-mediated rheumatic disorder, which affects the axial skeleton and sacroiliac joints. Although radiographic sacroiliitis is the distinctive feature of ankylosing spondylitis and detection of acute sacroiliitis is the key for early diagnosis of these disease, the anamnesis and physical exam conduct to many diagnostic elements.

Case presentation:
We present the case of a 63-year-old patient who comes in accusing of pain in his sacroiliac joints that radiate alternatively from the posterior part of the inferior extremity to the popliteal fossa and pain in the lumbar and thoracal spinethat intensify at night or right after waking up in the morning, accompanied by the restriction of movements at these levels, improving with exercise and intermittent administration of AINS. Performing the clinical examination we have discovered pain during the palpation of the sacroiliac joints, positive to Ericksen maneuvre, straightness of the lumbar spine, hyperkyphosis in the thoracal spine, ankylosis of the thoracolumbar spine with a hunched posture, pain while mobilizing the cervical spine, and the limitation of all the movemetns at this level. X-rays of the spine have shown incomplete bamboo spine with multisegmental syndesmophytes between the T7-T11 and the L3-L5 vertebrae, with inflammatory modifications at the vertebral end plate, and fused facet-joints, bilateral total ankylosis of sacroiliac joints.

Discussions:
This is a particular case due to the late discovery of the articular disease, with the fusion of all the segments of the spinal column. A good clinical examination, through the discovery of all the physical particularities of ankylosing spondylitis, has represented the first step to a correct diagnosis.

Keywords:
ankylosing spondylitis, anamnesis, physical exam, spine, sacroiliac joints

Single-leg drop-jump landing performance in elite young soccer players – preliminary results

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Background: The aim of this study was to assess the single-leg drop jump landing performance in elite young soccer players and to identify possible side-to-side asymmetries, in relation to previous lower limb musculoskeletal injuries.

Material and method:
The single-leg drop jump performance was assessed using Kinvent Deltas force platforms. The subjects were asked to perform a single-leg drop jump from a height of 30 cm, stabilize and maintain balance for 15 seconds on the force platform.

Results:
Twelve elite male soccer players (mean age 24.66±4.59 years, BMI 23.76±1.61 kg/m^2) were included in the study. Four subjects had a history of ankle sprains, four an anterior cruciate ligament reconstruction, while the rest had no previous lower limb injuries. The dominant leg was the right leg in 57.14% cases.

Conclusions:
The single-leg drop jump could be used for the assessment of postural dynamic stability in soccer players, and also as a tool to identify athletes at risk of injury.

Keywords:
performance, soccer players, single-leg drop jump landing

Spontaneous intracranial hypotension: case report and update on diagnosis and treatment

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Abstract:
Spontaneous intracranial hypotension (SIH) is a major cause of daily headaches that affects both young and middle-aged, active adults. It is unfortunately
often misdiagnosed, leading to prolonged periods of inactivity and quite high healthcare expenses. For its diagnosis it is of paramount importance to have a high degree of suspicion and to carefully interpret imaging studies. We are going to present a case of SIH that was successfully treated, despite the serious diagnostic challenges it posed, as well as an updated overview of the clinical picture, the evaluation, and the options of
treating this condition.

Keywords:
spontaneous intracranial hypotension; cerebrospinal fluid leak; diagnostic criteria; magnetic resonance imaging; myelography; epidural blood patch;

Case Presentation:
Clinical data:

A 51-year-old male patient presented to the ED complaining of a headache lasting for the past 7 days followed by acute-onset double vision.
Prior medical history consisted of hypertension, asthma, and chronic maxillary sinusitis with a flare-up in the past week, which manifested with bloody nasal discharge. Chronic hypotensive treatment, and intranasal Levocetirizine. Given his prior history of hypertension and the sudden onset of diplopia he was admitted with a suspected vertebro-basilar stroke.
General physical examination: BP 146/86 mmHg, rhythmical heartbeats, 82 BPM, temperature of 36.6°C, slightly overweight (BMI 26.8 kg/m^2), no audible bruits on auscultation of the carotid and vertebral arteries.
Neurological examination: slight neck stiffness, convergent strabismus with limited abduction of L eye, preserved muscle force in all limbs, normal tendon reflexes but bilateral indifferent cutaneous plantar reflexes, normal general somatic sensation, speech, and coordination.
Ophthalmological examination (requested and done prior to admittance on the neurology ward): preserved vision and normal aspect of optic fundus bilaterally, intraoptic pressure – 14 mmHg in R eye, 11 mmHg in L eye.

Evaluation and treatment:
Biochemical and hematological analyses showed normal CBC and ESR, liver and kidney function, glycemia and C reactive protein.

A non-contrast-enhanced CT described a left capsulo-lenticular lacunar stroke and a similar lesion in the right pons.
After standard medical treatment for stroke was commenced, the patient worsened.
Lumbar puncture: pleiocytosis and slightly increased protein content.
Contrast-enhanced MRI: smooth, diffuse, pachymeningeal enhancement.
Several diagnostic possibilities evoked, ranging from infectious,
autoimmune diseases, or granulomatoses. Medical treatment tried to cover all these conditions, which is why he had 3 episodes of hospitalizations.
Nonetheless, patient state continued to worsen – developed bilateral hygroma, which suggested a correct diagnosis of SIH.
Transfer to neurosurgery department, where a high cervical CSF leak was discovered and treated with lumbar epidural blood patch (ineffective), followed by CT-guided EBP, which managed to cure the patient.

Discussion:
SIH has a broad spectrum of clinical manifestations, but rather well- defined imagistic characters (diffuse pachymeningeal enhancement and signs of brain sagging), which should be carefully looked for in order to reach a correct diagnosis.

Conclusions:
With an incidence of 5/100,000 persons, SIH is not as rare as previously thought, and its diagnosis requires a high degree of clinical suspicion, both on behalf of neurologists and of other medical specialists who see patients complaining of headache. A careful study of imaging, preferably in a team approach, may hasten a correct diagnosis. The treatment should also be approached in a multidisciplinary manner, with close cooperation between neuroradiologists and neurosurgeons.

Studies on the migration of human mesenchymal stem cells to inflammatory lesions using in vivo mouse models

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Introduction:
Mesenchymal stem cells are engaged in both laboratory and animal experiments due to their capability to migrate and integrate into damaged tissues. This migratory and engraftment capacity is impacted by both intrinsic cellular traits and external environmental conditions.

Purpose:
This study aimed to evaluate the effectiveness of human adult mesenchymal stem cells (MSCs) transfected with CD29-specific siRNA in migrating towards skin inflammatory lesions. The experiments include both *in vitro* assessments to test transfection efficiency and *in vivo* investigations using an immunosuppressed mouse model with artificially induced inflammatory processes.

Materials and methods:
Various methods were used in this study, including the inhibition of CD29 expression through specific siRNA, immunocytochemistry, immunofluorescence analysis, RNA extraction, RT-PCR, and quantitative RT-PCR. Epidermal lesions measuring 0.5 cm were induced at dorsal paravertebral or ventral sites 24 hours before cell injection in both mouse groups (control and experimental). The lesions were intentionally left unsutured to facilitate the accumulation of inflammatory exudate in the subsequent hours. Throughout the experiment, the vital parameters of the mice were diligently monitored. To visualize GFP-MSCs migration at the lesion site *in vivo*, we injected 1 x 10^6 cells suspended in 50 µl saline solution (PBS) near the incision site. The injected cells were visualized based on fluorescence intensity. At the end of the experiment, after 7 days, skin samples of the healed wound were harvested and processed for further immunofluorescent analysis.

Results:
CD29 expression was positive in both groups, with fewer cells in the experimental group. In the control group, GFP-MSCs were found within and around the lesion, suggesting microenvironment-dependent migration. CD29 blockage may inhibit MSC migration, potentially benefiting cancer treatment. Conclusions: The peri-lesional environment and metabolic changes influence MSC engraftment, with hypoxia paradoxically enhancing viability and secreted factors contributing to closing skin lesions.

Keywords:
CD29, mesenchymal stem cells, inflammatory skin lesion, in vivo, siRNA

The atrial fibrillation response to electrical cardioversion after repetitive recurrences following catheter ablation

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Background:
Atrial fibrillation (AFib) is a cardiac rhythm disorder, characterized by a rapid and irregular heartbeat which can be symptomatic or asymptomatic. Afib can be associated with serious complications as blood clots or strokes. Catheter ablation is a procedure used to correct atrial fibrillation based on the destruction of triggers by pulmonary vein isolation.

Case report:
We report a case of 59 year old male patient, former smoker, known with history of arterial hypertension (maximum value: 160/100 mmHg), CHADS2 VASc score = 1 (Congestive heart failure, hypertension, age2 ≥75, diabetes mellitus, stroke2, vascular disease, age = 65-74, sex category). known with three radiofrequency ablations for atrial fibrillation due to the multiple recurrences of AFib. The patient presented again a new episode of symptomatic AFib therefore electrical cardioversion was the next therapeutic approach. The last ablation was performed one year ago and the outpatient treatment was Bisoprolulum, Lercanidipinum and Apixabanum.
Echocardiography interpretation presented an efficient left ventricle with preserved systolic function and mildly dilated left atrium (left atrial volume index, 90% LAVI= 36 ml/m2). Given the hyperthyroidism with thyrotoxicosis in his past history induced by Amiodarone, suggested preconversion freatment was Flecainide. After analgosedation with Fentanyl and Propofol, electrical cardioversion was performed at 300J biphasic.
The electrical procedure was successful, the ECG detected sinus rhythm with cardiac rate: 80 beats per minute and he continued the treatment with Flecainide at home. After successful cardioversion of atrial fibrillation could appear an atrial stunning which is a transient depression of atrial and atrial- appendage mechanical function compared with its precardioversion state. In accord with our patient he didn't present atrial stunning post a successful cardioversion. He was discharged in good general condition, in sinus rhythm and hemodynamically stable.

Discussions:
Considering the patient condition, we emphasize the importance of maintaining the sinus rhythm in order to avoid the embolic events and arrhythmia recurrences. We also discussed the importance of multiple strategies: catheter ablation, antiarrhythmic drugs and electrical cardioversion when is needed, in order to keep the sinus rhythm to improve ablation outcomes.

"The budded bullet"- a ride from asthma to bleeding

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Keywords:
metal body, bronchiectasis, hemoptysis, VATS

Introduction:
Asthma is a chronic inflammatory disorder of the airways characterized by variable and recurring symptoms such as wheezing, shortness of breath, chest tightness, and coughing, accompanied by airflow obstruction and bronchial hyperresponsiveness. These symptoms often occur in response to triggers such as allergens, respiratory infections, exercise, or irritants, leading to reversible airflow limitation.

Case presentation:
A 32-year-old female patient, with a documented medical history of well-managed bronchial asthma, presented to the emergency department exhibiting a substantial volume of hemoptysis refractory to conventional hemostatic interventions.
Following comprehensive clinical assessment and standard diagnostic procedures, the patient was referred to the Pulmonology Department where a computed tomography (CT) scan was conducted, revealing the presence of a foreign body within the right lower lobe alongside infected cylindrical bronchiectasis characterized by pronounced wall thickening.
Concurrently, radiographic examination unveiled a distinctive tree-in-bud microopacities pattern. Subsequent to interdisciplinary deliberations, the patient underwent exploratory bronchoscopy and video-assisted thoracoscopic surgery (VATS) aimed at the en bloc extraction of the foreign body concomitant with a right lower lobectomy.

Discussions:
Following the surgical intervention, it was determined through comprehensive retrospective inquiry, inclusive of family discourse, that the patient had inadvertently aspirated a metallic pen lead during childhood. This historical revelation, corroborated by clinical findings including copious hemoptysis during bronchoscopic examination and subsequent identification of bronchiectasis via computed tomography, prompted decisive intervention in the form of a successful right lower lobectomy. Subsequently, the patient's convalescence ensued, culminating in discharge after an 8-day hospitalization period, accompanied by tailored directives for pulmonary rehabilitation.
This case serves as a compelling illustration of a frequently encountered etiology for hemoptysis, specifically the retention of a foreign body within the respiratory tract, albeit overlooked for an extended duration of approximately two decades. Consequently, subsequent to the development of asthma, the patient presented to the emergency department with symptoms indicative of the erosion of a significant intrapulmonary blood vessel.

The Challenges of Acute Myocardial Infarction: A Case Study with Multifaceted Complications

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Introduction:
Acute myocardial infarction with ST-segment elevation on ECG suggests significant blockage in the coronary arteries. Following the AMI, acute pump failure can lead to complications in other organs, revealing unexpected findings in patient workup.

Case presentation:
We report a case of a 74-year-old woman known with hypertension, dyslipidemia and a recent stroke, who arrived at the emergency department due to crushing precordial chest pain, radiating to the left upper limb, of 15 hours duration. Electrocardiography showed previously undocumented atrial fibrillation, ST segment elevation in anterior and lateral leads. Emergency coronary angiography revealed proximal occlusion of the LAD and moderate stenosis of the RCA. Echocardiography revealed an ejection fraction of 30%, akinesia of the lateral wall, apex and anterior septal wall, dilated left atrium with a hyperechoic image, measuring 3.5/2.3 cm at the left atrial appendage, pedunculated and well-organized, raising high suspicion of thrombus or atrial myxoma; moderate mixed mitral insufficiency, severe functional tricuspid insufficiency, and mild secondary PAH. Transesophageal echocardiography suggested atrial thrombus. Treatment involved implantation of a pharmacologically active stent in the LAD followed by triple antithrombotic therapy with clopidogrel, acetylsalicylic acid, and acenocoumarin. During hospitalization, she developed acute pancreatitis, with a significant rise in hepatic enzymes, confirmed by imaging and treated conservatively. Elevated creatinine levels raised suspicion of hepatorenal syndrome. Agitation, confusion, and sudden sleepiness raised stroke concerns, yet CT scans revealed no changes. Ventricular tachycardia required amiodarone treatment. She was discharged to a nursing home with paraclinical organ functions improvements except cardiac, with a dilating left ventricle and ejection fraction of 25%, with an unchanged ECG marking a probable ventricular aneurysm.

Discussions:
This case highlights the possibility of negative patient evolution despite stenting, due to delayed presentation and maladaptive ventricular dilation. It also demonstrates pump failure as a cause of MODS, with a possible cause of AMI being embolization of left atrial thrombus fragments into the coronary artery. Following the stroke, thorough investigation could have diagnosed the probable paroxysmal atrial fibrillation existing at that time, and anticoagulation might have contributed to a better clinical outcome. Currently, surgical thrombus removal is not an option, with ongoing risk of thromboembolic events until thrombus dissolution. The prognosis is poor, necessitating palliative care.

Keywords:
Acute myocardial infarction, ST-segment elevation, atrial fibrillation, pump failure, MODS, stenting, complications, thrombus, hepatorenal syndrome, stroke, ventricular tachycardia, acute pancreatitis, ventricular aneurysm, cardiac remodeling.

The Colors of Confusion: The Importance of Electrolyte Imbalances in Psychiatric Differential Diagnosis. A Case Presentation

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Introduction:
Hyponatremia represents one of the most common electrolyte disorders encountered as patients age, characterized by symptoms dominated, in the early stages, by episodes of confusion, fatigue, and headache, constituating an important differential diagnosis in patients being investigated for a deteriorative-dementia syndrome.

Case Presentation:
We present the case of a female patient with a history of psychiatric disorders and multiple somatic comorbidities, admitted to the Psychiatry Clinic for an acute decompensation episode characterized by depressive features with deteriorative elements, which remitted following the correction of the hyponatremia arising from underlying pathologies and chronic medication administration.
A 61-year-old female patient with a known history of Major Depressive Disorder for approximately 20 years, under outpatient treatment at a specialized clinic, along with type 2 diabetes mellitus managed with oral antidiabetic agents, III grade hypertension treated with a triple antihypertensive therapy, mixed dyslipidemia managed with lipid-lowering therapy, II grade obesity, secondary left coxarthrosis due to femoral head necrosis and recurrent macroscopic hematuria, presented to the Psychiatry Clinic for an acute decompensation episode characterized by depressive features with deteriorative elements, including confusion and temporal disorientation at the time of examination.
Laboratory testing revealed hyponatremia, hypokalemia, hypochloremia, elevated serum urea and creatinine levels, anemia, and inflammatory syndrome. Consequently, a nephrology consultation was performed, and hydroelectrolytic rebalancing therapy was initiated, alongside the substitution of the psychiatric treatment. Following the correction of hyponatremia, the patient's condition improved significantly, with remission of deteriorative symptoms. Subsequently, the patient was referred to nephrology for further evaluation, being observed for acute hemorrhagic cystitis.

Discussions:
Hyponatremia emerges as a crucial differential diagnosis in the investigation of a deteriorative syndrome, as evidenced, in this case being driven by a combination of factors including underlying cardiovascular pathology, diabetes mellitus, renal dysfunction, and chronic administration of both cardiologic and psychiatric medications.

Keywords:
hyponatremia, electrolyte disorders, depressive disorder, hemorrhagic cystitis.

The Effect of Ouabain on Solid Tumors – *in vivo* study

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Introduction:
Cancer remains a significant challenge for healthcare worldwide. Despite all the progress, research on potential therapeutic measures is still necessary. Ouabain is a cardiac glycoside that has gathered attention for its potential anti-tumor properties in recent decades. This study aimed to analyze microscopically the effects Ouabain has on tumors excised from experimental mouse model.

Methods and Materials:
SK-BR-3 cells bear resemblance to the aggressive HER2-positive breast cancer cells. They were mixed with MatriGel (a solution that contains extracellular components from a sarcoma cell line) and then injected into mice. After the cells developed into tumors (8 weeks), the experimental group was treated with Ouabain (n=10), while the control group was untreated (n=10). Following this treatment, the tumors were excised and a macroscopic and microscopic analysis were conducted in order to assess any histological changes induced by the drug.

Results:
Results suggest that treatment with Ouabain led to significant transformation in tumor morphology compared to the control group. Although, macroscopic evaluation presented no particular change in the size of the tumors, further microscopic examination on hematoxylin-eosin staining revealed a disrupted tissue architecture, a decrease in tumor cells number and signs of cellular apoptosis in the tumors excised from Ouabain-treated mice. These observations suggest a potential inhibitory effect of Ouabain on SK-BR-3 tumor growth.

Conclusions:
In summary, this research brings forth compelling evidence of Ouabain's potential therapeutic use on SK-BR-3 cell tumors in mice. The observed changes after treatment indicate its anti-tumoral properties, by means of inducing apoptosis and hindering tumor proliferation. Further research is needed to assess Ouabain's mechanisms of action and to find therapeutical use for these findings.

Keywords:
Ouabain, SK-BR-3 tumor cells, mouse model, anti-tumor effect

The role of monoamine oxidase-dependent oxidative stress in the pathogenesis of hyperglycemic memory in diabetic mice

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Background:
Monoamine oxidases (MAOs) A and B are mitochondrial enzymes responsible for catecholamine metabolism with the constant generation of hydrogen peroxide (H2O2) as by-product, which increases in cardio-metabolic pathologies. The current study set out to assess the contribution of MAOs-related oxidative stress to the phenomenon known as "hyperglycemic or metabolic memory," which is thought to be a novel pathogenic mechanism causing endothelial dysfunction and oxidative stress in diabetes mellitus even after glucose levels have returned to normal.

Material and methods:
Diabetes was induced in mice with streptozotocin (STZ, 50
mg/kg) and after 2 weeks aortas were harvested and used to assess MAO expression and H2O2 production. Insulin glargine (10 U/kg/day, 1 week) and MAO A and B inhibitors (clorgyline and selegiline, 1 mg/kg/day, 1 week) were administered in the treated group.

Results:
Two weeks of hyperglycemia elicited the increase of MAOs expression and oxidative stress aortas of diabetic mice. The use of glargine to partially correct glucose did not completely mitigate neither MAO expression nor H2O2 generation. *In vivo* co- administration of MAO inhibitors in addition to insulin further decreased the oxidative stress in diabetic mice.

Conclusion:
MAO inhibitors mitigated the vascular "hyperglycemic memory" in the experiemental model of STZ-induced diabetes and are promising candidates for repurposing as vasculo-protective drugs in diabetes.

Keywords:
mice, diabetes, hyperglycemic memory, monoamine oxidase, oxidative stress
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Tiny but mighty: A case of ano-rectal melanoma leading to extensive metastasis

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Introduction:
Melanoma is a type of malignant skin tumor that often develops in sun- exposed areas, but uncommonly originates from the mucosa. A rare localization is the anorectal region, which accounts for 0.4% of all melanomas and is accompanied by a worse prognosis than skin-melanomas.

Case presentation:
A 72-year-old woman, with history of Parkinson and hyperthyroidism, presented with rectorrhagia, unintentional weight loss and an anal tumoral mass. A diagnostic colonoscopy revealed a 3x4 cm pedunculated polyp at the level of the ano-rectal junction, as well as internal, congested, grade II hemorrhoids. Wide local excision of the polyp was performed and a postoperative, contrast CT showed infracentrimetric lymphadenopathies in the mesorectum and its fasciae, with no signs of local recurrence. The histopathological and immunohistochemical evaluation revealed ano-rectal melanoma pT2N0M0.
2 years later in 2021, the patient retuned for follow-up. A contrast CT revealed lymphadenopathies within the mesorectal fat and a pulmonary nodule. Taking into account the PET-CT result, the oncologist opted for immunotherapy.
One year later, the patient returned for an evaluation of surgical options regarding the recurrence in the pelvic region. The contrast CT scan identified a 10x7 cm tumoral mass surrounding the lower rectum with expansion into the presacral area and ultrasonography displayed multiple hypoechogenic nodules in the mesentery and retroperitoneal fat, along with moderate ascites. Consequently, surgery was deemed unfeasible.

Discussions:
This case highlighted ano-rectal melanoma as a difficult to diagnose and to treat disease in a patient that presented with non-specific symptoms such as rectal bleeding and a tumoral mass, which is often clinically misdiagnosed as a hemorrhoidal pile. The diagnosis process posed a challenge that led to an advanced stage of the disease. Even though, complete local resection was performed, the aggressive systemic dissemination resulted in multiple metastases, which ruled out surgery as a curative option. According to literature wide local, sphincter-sparing excision is suggested as a primary measure with the goal of achieving negative resection margins, as opposed to abdominoperineal resection, which is reserved for patients with bulky local disease. Adjuvant therapy has improved locoregional control and the quality of life, despite having a limited impact on the overall survival.

Keywords:
ano-rectal melanoma, rectorrhagia, wide local excision

Traumatisms of the axillary artery- case report

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Introduction:
The principal etiology of traumatic vascular implication of the upper limb is penetrating trauma.
Contusions rarely affect the vessels, due to protection supplied by adjacent bone. Injury to the axillary artery is the rarest, due to the solid protection conferred by bones and muscles of the axillary region. This is a report of three surgical cases, presenting with severe post-traumatic axillary artery lesions, produced by fracture with displacement of the humerus, clavicular fracture with direct arterial lesion, and direct penetrating trauma of a foreign body, admitted emergently this current year. Excepting the last case, a gigantic pseudoaneurysm with clavicular pseudarthrosis, the intervention being performed as a delayed emergency, the other cases were immediately operated on.

Case presentation:
In the case of the pseudoaneurysm, the axillary artery presented with a solution of continuity of approximately 7/3 mm, which was repaired by suture of heterologous pericardium patches to the defect. In the remaining two cases, trauma was severe, consisting of contusion with medio-intimal tear and dissection of approximately 8cm in the case of the humeral fracture, respectively contusion with complete lesion of approximately 7cm in the case of direct trauma, both cases requiring vascular prostheses. Postoperative evolution was favorable in all cases, the patients being discharged between 7 and 20 days postoperatively.

Discussions:
The surgical strategy must be well established, access to the axillary artery requiring precise dissection, due to the risk of causing damage to adjacent arteries, veins and nerves. Owing to friability of the arterial wall, reconstruction requires an atraumatic and precise technique.

Keywords:
axillary artery traumatism, vascular prosthesis, axillary artery pseudoaneurysm

Type 1 Diabetes and the COVID-19 Pandemic: Diagnostic Challenges and Insights

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Introduction:
Type 1 diabetes (T1D) is an autoimmune disease caused by the destruction of the pancreatic beta cells, resulting in insulin deficiency.
Strong evidence suggests viruses are linked to T1D development. During the COVID-19 pandemic, cases of new diabetes increased, indicating SARS-CoV-2 may be a trigger. However, there have been few reports of T1D after mRNA-based SARS-CoV-2 vaccine, in subjects without diabetes. Most presented with quick development of diabetic ketoacidosis.

Case presentation:
We present the case of a 19-year-old female patient diagnosed with T1D. There was no family history of diabetes. Four months before, routine blood tests were normal. Three months before, the patient, vaccinated against COVID-19, experienced a cold, believed to be a mild form of COVID-19 infection.
Mild symptoms were observed a month before admission and worsened in the last week, coinciding with a recurrence of a cold. When seeking medical assistance, a COVID-19 infection was suspected but not confirmed, while symptoms of diabetes onset were disregarded. The patient presented to the emergency department with drowsiness, marbled skin, hypothermia, weight loss, polyuria, Kussmaul breathing, tachycardia, hyperglycemia (over 400 mg/dL). Arterial blood gas analysis revealed severe metabolic acidosis (pH=6.8). Ultrasound identified complete a collapse of the inferior vena cava of 10 mm. Nevertheless, the patient remained conscious and improved over two days, after treatment in the intensive care unit.
Inflammatory syndrome, leukocytosis, severe ketoacidosis, elevated anti-GAD65 antibodies, and low C-peptide levels were found in blood tests. Glycated hemoglobin was 13.42. Urine examination revealed glucose and ketones. Insulin therapy was started. The patient ameliorated, maintaining compliance with treatment and blood glucose monitoring.
Additionally, urinary tract infection with ESBL-producing Escherichia coli was detected after urinary catheterization, considering the patient's immunocompromised status.

Discussions:
Our case aims to highlight the connection between T1D and a potential COVID-19 infection, even in vaccinated patients, as well as the possible association between the disease and the vaccine. It also raises concerns about diagnostic errors, particularly during the pandemic, due to patients ignoring early mild symptoms, superficial medical consultations leading to incorrect diagnoses and mistaking the initial symptoms for a viral infection, error that contributed to the severity of patients' ketoacidosis.

Keywords:
type 1 diabetes, severe metabolic acidosis, anti-GAD65 antibodies COVID-19 infection, mRNA-based SARS-CoV-2 vaccine.

Ultrasound In The Diagnosis And Surveillance Of Pseudoaneurysm In Patients With Chronic Pancreatitis - A Case Series

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Introduction:
Pseudoaneurysm is a rare complication of chronic pancreatitis. It can lead to digestive haemorrhage with diagnostic and treatment particularities. Abdominal ultrasound is a valuable technique for the assessment of pseudoaneurysm in a set of patients suffering from chronic pancreatitis. New techniques such as Contrast-enhanced ultrasound could play an important role in diagnosing and tracking patients with Pseudoaneurysm.

Case presentation:
To accomplish our study we used two imagistic methods: computed tomography and ultrasound. We examined three patients with chronic pancreatitis with pseudoaneurysm, using various approaches and therapies.
The first case presented in the emergency room for upper GI bleeding, the cause of which could not be determined through upper endoscopy. The ultrasound revealed a pancreatic mass, with a Doppler appearance of arterial injury, confirmed by a CT scan being a pseudoaneurysm of the superior mesenteric artery.The second case presented with a large pancreatic pseudocyst and underwent ultrasonically guided endoscopic drainage. After a few months, the patient came to the ER with fever, elevated liver enzymes and hyperglycemia secondary to a newly diagnosed diabetes. Abdominal ultrasound revealed hypoechoic round nodules in the liver and a mass with characters suggesting pseudoaneurysm. CT scan confirmed the diagnosis of splenic artery pseudoaneurysm with inhomogeneous mass in the head of the pancreas and suggest that the liver masses were cystic lesions. Contrast enhancement revealed a liver abscess secondary to cholangitis.The third case presented repeatedly in the ER with exacerbated episodes of chronic pancreatitis. CT and US revealed a hypoechoic mass in the head of the pancreas suggesting a pancreatic tumour or pseudotumoral chronic pancreatitis. Contrast-enhanced ultrasound was the next step in further characterising the mass. The aspect was suggestive of pseudoaneurysm, and the patient was referred for angiography. The final diagnosis was a superior artery pseudoaneurysm successfully treated by coil embolization during angiography.

Discussion:
Ultrasonography is a useful method for the diagnosis of pseudoaneurysm, being a complementary method to computed tomography
and angiography.

Keywords:
ultrasound, pseudoaneurysm, chronic pancreatitis

Unexpected discovery: an asymptomatic atrial septal defect case study

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Introduction:
Secundum atrial septal defect (ASDII) remains one of the most complex congenital heart defects that causes shunting of blood between the systemic and pulmonary circulation. The defect is defined by an opening in the septum primum adjacent to the fossa ovalis. ASD can have a wide range of clinical presentations, from shortness of breath, fatigue to severe pulmonary hypertension and right heart volume overload.

Case Presentation:
We examine the case of a 45-year old woman, with no medical history of cardiovascular pathologies, known with bronchial asthma and venous insufficiency class CEAP I/II, who was admitted with dyspnea on moderate exertion, rapid and irregular palpitations, and decreased exercise tolerance. In order to differentiate between pulmonary and cardiac causes of dyspnea, NTproBNP was obtained, which showed an elevated value (841 pg/dl), leading us towards a cardiac etiology of the patient's symptoms. A transthoracic and transesophageal echocardiography followed by a cardiac computed tomography scan diagnosed a large (28 mm) atrial septal defect type ostium secundum with hemodynamically significant left-to-right shunt, moderate tricuspid regurgitation and secondary pulmonary hypertension.

Discussions:
The particularity of this case consists of the asymptomatic stage that the patient was in for such a long time; the presence of pulmonary hypertension warranted urgently intervention to close the defect of the atrial septum. Because of its favourable patient profile and less invasive nature, percutaneous closure was selected as the recommended intervention. An Amplatzer device, specially designed to suit the extensive dimensions of the defect, was used for transcatheter closure.
This patient's presentation is uncommon and emphasises the value of routine cardiac screening even in the absence of symptoms, in contrast to typical examples of ASD diagnosis in childhood or early adulthood.

Keywords:
Atrial Septal Defect Type Ostium Secundum, Amplatzer device, Pulmonary Hypertension, Congenital Heart Disease, Bronchial Asthma.

Unveiling Rapidly Progressive Osteoarthritis of the Hip- A Case Report

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Introduction:
Rapidly progressive osteoarthritis of the hip (RPOH) is a degenerative condition affecting the coxofemoral articulation, with a reported incidence rate of 10-18%. RPOH presents similar symptoms to those of hip arthritis yet distinguishes itself by the rather sudden progression of joint deterioration occurring within a timeframe of 6 to 24 months.
Lequesne was the first to characterize RPOH, defining it as chondrolysis exceeding 2 mm within a year, or a 50% reduction in joint space within the same timeframe. This definition aids in establishing the differential diagnosis between RPOH and other pathologies capable of causing rapid destructive changes within the hip joint.

Case presentation:
We present the case of a 70-year-old patient with a medical history of chronic ischemic cardiomyopathy, grade III arterial hypertension, chronic venous insufficiency, who is admitted in the orthopedic clinic in March 2022, accusing pain in the left hip and limping. Laboratory tests ruled out the presence of an inflammatory pathology, and a hip X-ray revealed a partial narrowing of the joint space without deformities or any ascension of the femoral head.
Maintained under observation, the patient presents herself in January 2023 for a follow-up evaluation. The radiological examination reveals an extremely unfavorable prognosis, with the complete disappearance of the joint space, partial osteolysis of the femoral head and with its ascension over 0,5 mm above radiological teardrop and subchondral osteosclerosis. Based on the imaging findings, the diagnosis of grade III RPOH was established. As a stage III RPOH case, the therapeutic approach involved the decision for Total Hip Arthroplasty utilizing a Biotechni uncemented endoprosthesis. The patient experienced a favorable improvement, being able to resume walking within 24 hours post-surgery.

Disscutions:
Considering the similarity between RPOH and coxarthrosis, both from an imaging and symptomatological point of view, we want to emphasize the importance of closely monitoring the evolution of the patient, in order to be able to establish, as early as possible, the diagnosis and an appropriate treatment. It is imperative that any orthopaedic physician should pay close attention to the high-risk groups, whilst never excluding the probable diagnosis of RPOH in a patient with classical characteristics of coxarthrosis.

Keywords:
Rapidly progressive hip osteoarthritis, Coxarthrosis, Differential Diagnosis

Value of using podoplanin in the prognosis of gastric cancer

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Introduction:
Gastric cancer is the fifth most common type of cancer in Romania. Unfortunately, it is often discovered late, with only 1% of patients diagnosed in the early stage. In the initial stages, the survival rate after 5 years is about 60%, while for stages II, III, and IV, the survivability severely drops. Many therapies have been tried but with underwhelming results, most of them still being in the clinical trial phase. Therefore, there is a significant need for new tumoral markers that can evaluate the prognosis and the response to treatment. Podoplanin is a transmembrane receptor glycoprotein that has been used as a cancer biomarker in recent years. It is used to determine lymphatic vessels. However, the data regarding podoplanin is controversial, and there hasn't yet been any therapeutic implementation.

Material and Methods:
In this randomized study, we analyzed 38 stomach cancer specimens. Besides that, we used immunohistochemical staining to analyze the expression of podoplanin. The primary antibody used was podoplanin (clone D2-40, mouse monoclonal). We evaluated the lymphatic microvascular density in the intratumoral zone and the peritumoral zone. We did not include the GISTs in the analysis and one of the adenocarcinomas has failed to be stained immunohistochemically. All the counts were made using x400 magnification.

Results:
There were 3 types of gastric tumors identified: 55,3 % adenocarcinomas, 31,6% diffuse carcinomas, and 13,2% GISTs. For the morphological identification, we used H&E staining. We noticed a higher average of lymphatic vessels in the intratumoral zone(average value of 11,49) compared to the peritumoral zone(average value of 10,34). The lowest amount of vessels in the intratumoral zone was 4 and the maximum was 34. In the peritumoral area, the minimum was 0 and the maximum was 32. Intestinal metaplasia was observed in five of the specimens and lymphovascular invasion in six of them. Analyzing the G and the average of both intratumoral and peritumoral zones, we noticed a significant correlation($p<0,001$).

Conclusion:
We found a strong correlation between the G and the intratumoral and peritumoral number of lymphatic vessels that may have relevance in the prognosis.

Keywords:
gastric cancer, podoplanin, lymphatic microvascular density

Case report - abstract
Varicose ulcer and varico-phlebitis, simultaneously present on both lower limbs

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Introduction:
This case report describes a patient presenting varicose ulcer on the calf region of the left lower limb, associated with varico-phlebitis on the thigh region of the right lower limb. Both affections are generally caused by ostial insufficiency, and can lead to severe complications, but they are rarely present independently, on both lower limbs.

Case presentation:
A 33-year-old female presented to the clinic with a 2-3 cm superinfected ulcerative lesion, without any epithelization tendency, which had appeared for about 3 weeks and acute pain. She had a history of two pregnancies and varicose disease for 12 years, triggered post-partum, without taking any medical treatment.
At consultation, there were discovered varicose veins situated in the left calf, dependent on GSV, with a complication of internal premallear varicose ulcer. At the level of the right thigh and calf, there were also present GSV-dependent varicose veins, with a complication of varico-phlebitis in the posterior region of the thigh, the pain installing after a long period of time spent in sitting position.
Venous Doppler echography confirms bilateral ostial insufficiency with varicose veins on the tributaries of the GSV, with thrombi at the level of the vascular bundles in the right thigh and incontinent perforating veins situated in the left calf, near the ulcerative lesion.
The complete diagnosis was superficial chronic venous insufficiency (CVI) of the lower limbs bilateral, CEAP VI for the left limb, CEAP IV for the right limb, with right thigh varico-phlebitis and left calf varicose ulcer.
For treatment was prescribed an antibiotic, based on a secretion probe from the ulcer. There were also prescribed anticoagulants, NSAIDs and venotropics.
A control in 3 weeks was recommended, with appointment for classical intervention of the right lower limb and surgical debridement of the ulcer.

Conclusion:
Varicose disease complicated with varico-phlebitis and/or varicose ulcer can often be caused by a long period of time spent in sitting position. It represents a serious medical problem and it should be treated as early as possible, because it usually leads to more severe stages.

Keywords:
varico-phlebitis, chronic venous insufficiency, varicose disease, varicose ulcer, case report

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Vasculo-biliary Events During Cholecistectomy: Identification And Solutions

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Introduction:
Laparoscopic cholecystectomy stands as a prevalent and effective surgical modality employed for the removal of the gallbladder. However, this technique is associated with a notable risk of intraoperative complications, including vascular and biliary injuries. These complications may precipitate adverse outcomes such as hemorrhage, bile leaks, or other unfavorable sequelae. Timely recognition and appropriate management of such occurrences are imperative to attain optimal surgical results. The primary objective of this study was to explore different modalities for the early detection of vasculo-biliary events during cholecystectomy and to exemplify optimal strategies for their resolution. Through this investigation, we aim to evaluate suitable surgical approaches for addressing such injuries, alongside available therapeutic modalities aimed at enhancing long-term patient outcomes and minimizing postoperative complications. The reparative strategies employed encompass both temporary and definitive interventions.

Methods and Materials:
This study focused on two illustrative cases from one surgical department: the first entails a common bile duct injury, while the second revolves around vascular injury encountered during its dissection from its bed.

Results:
Management of the common bile duct injury involved initial identification, followed by resolution in the next three days following initial surgery, and was achieved through Roux-en-Y biliary-enteric bypass. This procedure effectively restores bile drainage and mitigates potential complications such as bile leakage or biliary stricture.
Resolution of hepatic vein involvement in the gallbladder bed was achieved through primary laparoscopic suturing, a method employed to restore vascular integrity, offering the advantage of precise tissue manipulation.

Conclusions:
Ultimately, this study aims to provide a comprehensive and contemporary perspective on the identification and resolution of vasculo-biliary events during laparoscopic cholecystectomy. Such injuries pose a significant challenge during cholecystectomy, necessitating early diagnosis and targeted treatment.

Keywords:
laparoscopic cholecystectomy, intraoperative complications, vasculo-biliary events , surgery, reparative strategies

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