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Târgu Mureș, Romania

BOOK OF ABSTRACTS

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PATENT DUCTUS ARTERIOSUS CLOSURE IN A SIX-WEEKS-OLD INFANT WITH SIGNIFICANT HEART FAILURE. CASE REPORT

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Background: Patent ductus arteriosus (PDA) is the persistence of communication between great vessels after birth. PDA closure can be accomplished through pharmacological methods using cyclooxygenase inhibitors, minimally invasive transcatheter occlusion, or surgical ligation. In cases where pharmacological treatment is not effective, the next step is the minimally invasive approach. The limitations of this procedure are related to the age and weight of the patient. In recent years, due to advances in this area, both in terms of expertise and smaller devices, this limit has been pushed further and further.

Objective: This case presents a percutaneous transcatheter occlusion of a large PDA in a six-week-old infant.

Material and methods: We present the case, of a six-week-old female patient, 4.3 kg presented with signs of heart failure. She was diagnosed with a large PDA, patent foramen ovale, moderate/severe mitral regurgitation, mild aortic valve regurgitation, and dilation of the left cardiac chambers. This patient underwent an interventional procedure for PDA occlusion. It was used an Amplatzer Duct Occluder II Additional Sizes device.

Results: The procedure went well, without complications. The PDA was closed with a minimum residual shunt. There were no post-procedural complications.

Conclusions: Although in most cases PDA is not an emergency and the intervention can be postponed until the age of 6 months, there are cases in which it is necessary to intervene faster. In the case presented, the valvular damage following the dilation of the left cardiac chambers was the reason for an early correction. In selected cases, PDA closure can be successfully achieved in smaller infants with an experienced team and proper devices.

Keywords: Patent ductus arteriosus, Percutaneous transcatheter occlusion, Amplatzer Duct Occluder II Additional Sizes device.

THE IMPORTANCE OF EARLY DIAGNOSIS IN FETAL AORTIC COARCTATION

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Background: Coarctation of the aorta (CoA) is the fifth most frequent complex congenital heart deffect and accounts for 6–8% of live births with congenital heart disorder, with an estimated incidence of 1 in 2,500 births. Patients with CoA are at risk for hypertension, abnormalities with left ventricular performance and aortic complications.

Objective: Aim of this paper is to emphasize the importance of premature diagnosis of congenital diseases, with the purpose of avoiding possible complications along with establishing long-term treatment.

Material and methods: We present two cases of two male neonates, one with severe CoA and one with CoA suspicion. The first neonate was born at 40 weeks of gestational age and weighted 3500 g. The Apgar scores were 10 at both 1 and 5 minutes. He was early diagnosed with CoA and after birth, echocardiography and chest radiography showed CoA with aortic arch hypoplasia, persistent arterial canal with bidirectional shunt and ASD with a significant left to right shunt (8mm). The specific measurements revealed severe narrowing under the emergence of the left artera subclavia. The patient was first given a shot of 0,01µg/kg/min PGE1 and continued with 0,005 µg/kg/min dose. Second patient was born with CoA suspicion at 39 weeks and weighted 4080 g. The Apgar score were 9 and 10 at 1 and 5 minutes. Echocardiography revealed diaphragm aspect in the wall of the isthmic aorta and double ASD.

Results: The first newborn is discharged and sent to IUBCVT for surgical correction. For the second patient, only radiological reassessment is required, because the condition did not threaten the patient's life.

Conclusion: These case reports show the importance of detecting a prenatal fetal coarctation, or even suspect it, in order to improve a newborn life after birth.

Keywords: CoA, echocardiography, ASD.

HEART DEMAGE DUE TO HYPEREOSINOPHILIC SYNDROME IN THE CONTEXT OF ACUTE LYMPHOBLASTIC LEUKEMIA: A PEDIATRIC CASE PRESENTATION

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Background: Acute lymphoblastic leukemia (ALL) is an abnormal proliferation of lymphoid lymphocytes in the hematogenous bone marrow, blood and extramedullary sites.

Acute lymphoblastic leukemia is the most common type of cancer in children and young adults under 20 years of age. Hypereosinophilic syndrome superimposted with acute pre-B cell lymphoblastic leukemia promotes the development of cardiac decompensation.

Objective: To discuss the impact of diagnosing and treating the determinants of cardiac decompensation at a young age.

Material and methods: We report a case of 17-year-old man admitted to the hospital with the following symptoms and signs: spinal pain, weight loss (approximately 6 kg in 3 months), fatigue and skin pallor. Laboratory tests show leukocytosis with extreme eosinophilia, no blasts appear in the initial peripheral smear. Investigations are expanding, the medullogram describes 72% lymphoblasts. The patient receives chemotherapy according to the therapeutic protocol. After one year because of the hypereosinophilic syndrome he develops an interesting complication which is mitral regurgitation. The optimal treatment was decided to be mitral valvuloplasty. Due to the favorable evolution of the patient, an allogeneic bone marrow transplant is performed after another year.

Results: Despite the therapeutic methods that have been performed the patient was found with viral infection of the upper respiratory tract, acute bronchitis and otitis media left due to the immunosuppressive condition. Even if the evolution was generally a good one, the patient still needs a special lifestyle and regular clinical and biological controls.

Conclusion: The particularity of the case consists in the favorable evolution of the young leukemic patient despite of the numerous damages on the organism.

Keywords: hypereosinophilic syndrome, cardiac decompensation, acute lymphoblastic leukemia, allogeneic bone marrow transplant

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DEXTRO-TRANSPOSITION OF THE GREAT ARTERIES: THE FASTER YOU RECOGNIZE IT, THE BETTER YOU TREAT IT

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Background: Dextro-Transposition of the Great Arteries (D-TGA) is a complex congenital heart malformation whose postnatal evolution can be extremely severe. Prenatal diagnosis using fetal ultrasound has a great influence on the postoperative evolution of the patients, allowing an optimal therapeutic management.

Objective: To discuss the importance of fetal and postpartum D-TGA management in relation to long-term evolution of the patient.

Material and methods: We report a case of a newborn infant showing difficult postpartum adaptation, low oxygen saturation levels and extended cyanosis after being diagnosed intrafetally with oligohydramnios and Dextro-Transposition of the Great Arteries with restrictive foramen ovale. After suffering a post Prostaglandin E1 administration cardiac arrest with successul resuscitation, the infant underwent emergency Rashkind atrial balloon septostomy. Postprocedurally, the newborn developed atrial flutter unresponsive to cardioversion, but with later spontaneous conversion to sinus rhythm. On the 6th postnatal day, the arterial switch surgery was performed along with Patent Ductus Arteriosus (PDA) suture ligation and Atrial Septal Defect (ASD) closure. The patient presented postoperative hemodynamic instability associated with supraventricular tachycardia, for which inotropic support has been established. Because of the intraoperative hemodynamic instability,the surgical team opted for open sternotomy with delayed sternal closure (DSC).

Results: Considering the multitude of therapeutic interventions performed in an acute regime, the patient was found with massive pleural effusion in postoperative day 13, for which pleural puncture was performed. Howether, the patient's postoperative evolution was a generally good one, with late supraventricular tachycardia conversion under antiarrythmic treatment and further discharge.

Conclusions: Despite the fetal diagnosis and close follow-up of D-TGA, the medical team may experience severe postnatal complications. In such cases, emergency management is crucial, Rashkind atrial balloon septostomy proved to be a life-saving temporary solution.

Keywords: Prenatal diagnosis, Emergency interventions, Postoperative evolution

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TETRALOGY OF FALLOT - TIMING AND THE IMMEDIATE OUTCOME OF PRIMARY TOTAL SURGICAL REPAIR

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Background: Tetralogy of Fallot is a cyanotic Congenital Heart Disease that includes ventricular septal defect, pulmonary stenosis, overriding aorta and right ventricular hypertrophy. Its severity and symptoms depend on the grade of pulmonary stenosis and can vary from mild to pulmonary atresia.

Objectives: The aim of this paper is to highlight the immediate outcome after primary total surgical repair in a case of TOF with Heart Failure and Patent Ductus Arteriosus.

Material and methods: We present a case of a 9-months-old girl that came from a physiological twin pregnancy, born in January 2021 at 37 weeks of gestation through Cesarean section. The patient is recorded by the Pediatric Cardiology Clinic-IUBCVT Tg. Mures with the diagnosis of TOF and PDA since March 2021. The clinical examination revealed signs of Heart Failure with fatigue, growth retardation, O2 saturation of 85-90%, feeding difficulties, respiratory distress syndrome (tachypnea, moan) and hypoxic spell on β-blockers treatment. Based on clinical background, at the age of 9 months old, the patient benefit from primary total surgical repair with preservation of pulmonary annulus. The immediate outcome is complicated by respiratory disorders including right lobar pneumonia and bilateral pleural effusion.

Results: The post-operatory echocardiography disclosed no residual gradient in right ventricular outflow tract, medium residual tricuspid regurgitation and mild pulmonary regurgitation. In addition, the patient's post-surgical evolution was complicated by right lobar pneumonia and bilateral pleural effusion both remitted by adequate treatment.

Conclusions: The timing of primary total surgical repair in cases of TOF associated with PDA depends on the severity of clinical findings and if chosen correctly, allows the patient to live a normal and active life with no restrictions.

Keywords: TOF, PDA, total surgical correction, immediate outcome, timing

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TETRALOGY OF FALLOT IN A PATIENT WITH SEVERE STATUROPONDERAL AND NEUROPSYCHOMOTOR RETARDATION - CASE REPORT

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Background: Tetralogy of Fallot is the most common cyanogenic heart malformation. The anatomical defects included are: ventricular septal defect, obstruction of the ejection tract of the right ventricle, dextroposition of the aorta and right ventricular hypertrophy.

Objective: We present the case of a 3-years-8 months patient, male who is hospitalized for the first time by transfer to the cardiology clinic 3 children for investigations and specialized treatment. The patient is born prematurely at 7-months, physiological pregnancy, not disdispensarized and is known with congenital heart malformation without prior cardiological evaluation (social case). He had an episode of acute respiratory failure in 03.2022 and effort intolerance.

Material and methods: Clinical examination reveals pale-cyanotic, dry skin and mucous membranes, torturous facies, severe staturo-ponderal and neuropsychomotor retardation (z-score -2), sistolic murmurs gr III, oxygen saturation 60-65%, repeated hypoxic seizures at home. Laboratory investigations show us severe anemia corrected in advance with erythrocytic mass (Hgb: 6g/dl), hypocalcemia, LDH and CK-MB increased. The electrocardiogram revealed the QRS axis deviated to the right- RVH. The chest X-ray revealed characteristic appearance of the heart in the sabot, enlarged lungs.To assess the pulmonary anatomy, CT was performed describing the ring, trunk and pulmonary branches of appropriate size. Echocardiography reveals, dextropus aorta, significant infundibular pulmonary stenosis (maximum gradient 90mmHg), subaortic VSD, which confirms the diagnosis of Tetralogy of Fallot, neglected until the moment of admission. Following cardiosurgical evaluations, the decision was made of total primary surgical correction with the preservation of the pulmonary ring.

Results: Postoperatively, residuals lesions are a wide supravalvular pulmonary stenosis, small pulmonary regurgitation. As for laboratory analyzes, postoperatively a latent hypocalcemia and mild iron deficiency anemia is observed.

Conclusions: In the absence of proper monitoring and early correction, the Tetralogy of Fallot can have a significant impact on the growth and harmonious development of the child.

Keywords: Tetralogy of Fallot, staturo-ponderal retardation, neuropshiomotor retardation

DEALING WITH EBSTEIN ANOMALY IN A PEDIATRIC PATIENT: CASE REPORT

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Background: Ebstein anomaly is an uncommon congenital heart malformation characterized by an abnormal tricuspid valve and right ventricle myocardium in which the origin of the tricuspid leaflets is displaced. This malformation can range from mild to severe and the patients may be asymptomatic or in contrary, present severe cardiovascular symptoms.

Objective: Our aim is to present the management of a pediatric patient with a rare heart defect.

Case report: We present a case of a 2-year-old girl who was admitted to the hospital for investigation and treatment of a non-specific congenital heart disease detected at birth. She presented shortness of breath, cyanosis, and the clinical examination revealed mild precordial bulge, pectus excavatum, systolic murmur, and failure to thrive. The ECG showed tall P waves and right axis deviation. Imaging examinations revealed apical displacement of tricuspid valve, cardiomegaly due to the enlargement of the right cavities with preserved right ventricular systolic function, moderate tricuspid regurgitation and moderate pulmonary hypertension. She received treatment with Spironolactone and Enalapril, and 4 months later a surgical repair was performed.

Results: The patient had an uneventful postoperative course, and the four-month follow-up echocardiography showed a mild tricuspid regurgitation. The postoperative sternal wound was well healed, with no signs of inflammation and the child reached a healthy weight.

Conclusion: Ebstein anomaly is a rare congenital heart disease, with a wide spectrum of presentation. The management of this anomaly is complex and require a multidisciplinary team involvement. Due to the different forms of this malformation, numerous surgical techniques have been developed, which allow to adapt the surgical approach to the treated case and improve post operative results.

Keywords: Ebstein anomaly, congenital heart disease, tricuspid insufficiency

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THE ROLE OF CIGARETTE SMOKING IN THE EVOLUTION OF PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Background: Myocardial infarction is one of the leading causes of mortality, for which smoking is a major modifiable risk factor.

Objectives: The aim of this study was to evaluate the status of patients with acute myocardial infarction (AMI) treated by percutaneous coronary intervention (PCI) in regard to their smoking status.

Material and methods: A cross-sectional comparative study in which 843 patients were enrolled was performed.

Results: The mean age of the subjects was 61.7 +/- 11.8 years, out of which 47.2% were smokers. Smokers had significantly lower BMI than non-smokers (p=0.001) and were less likely to be obese (OR=0.62, CI95% 0.44-0.88, p=0.009). Negative associations were demonstrated between smoking and high blood pressure (OR=0.4, CI95% 0.3-0.54) and diabetes mellitus respectively (OR=0.34, CI95% 0.24-0.49), both p<0.0001. At admission, no significant difference was noticed regarding LVEF (p=0.24). The time interval between the onset of symptoms and angiography was reduced in smokers, compared to non-smokers (6.3 +/- 0.2 hours versus 7.4 +/- 0.2 hours, p=0.0002). Lower values were also highlighted in PAMI, ZWOLLE, CADILLAC, GRACE and ACEF risk scores (all p<0.0001). No association was identified between smoking and TIMI score before PCI, but post-interventional a moderate positive association between them was noticed (OR=2.52, CI95% 1.6-3.7, p<0.0001). In addition, both the Syntax and the clinical Syntax scores were lower in smokers (both p<0.0001). Regarding major complications, smoking was associated with less events of cardiac arrests (OR=0.6, CI95% 0.38-0.93, p=0.028) and less deaths (OR=0.32, CI95% 0.16-0.64, p=0.0008).

Conclusions: Our data confirm what literature originally classified as the “smoker’s paradox”, described as a lower in-hospital mortality of patients with AMI. However, lower age of smokers at admission and microvascular chronic inflammation caused by smoking must be taken into consideration given the better outcome in smokers to the detriment of non-smokers.

Keywords: myocardial infarction, smoking, percutaneous coronary intervention

RECURRENT RIGHT-SIDED ENDOCARDITIS – CASE REPORT

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Background: Infective endocarditis (IE) is a microbial infection of the endothelial surface of the heart and great vessels. The cardiac valves are usually involved. Right-sided IE is relatively rare and the vast majority of these cases involve the tricuspid valve, with pulmonic valve involvement accounting for less than 10% of all right-sided cases.

Objective: To report a case of endocarditis of the pulmonary valve in a patient previously diagnosed with bacterial endocarditis of the tricuspid valve and a history with numerous pulmonary infections.

Material and methods: A 49-year-old man known with history of bacterial endocarditis of tricuspid valve and repeated pneumonias was admitted to a community hospital for marked fatigability, fever at home and profuse sweating, symptoms which started 3-4 weeks before admission. The patient was also known with pulmonary fibrosis and COPD due to professional exposure.

Results: Initial laboratory tests were all negative except an elevated ESR. The electrocardiogram showed sinus rhythm and a bifascicular block. Transthoracic echocardiography revealed a moderate tricuspid regurgitation and raised the suspicion of a vegetation on the pulmonary valve, suspicion that has been confirmed on transesophageal ultrasound which showed a 14/7 mm vegetation attached to the pulmonary valve ring on the ventricular side, near the aortic valve, with filamentous extensions, without pulmonary regurgitation. The patient received empirical antibiotic therapy for two weeks with cefiximum and respiratory treatment prescribed by pulmonologist.

Conclusions: Right-sided endocarditis is a relatively rare condition especially in people who don't use intravenous illicit drugs or are not immunosuppressed. We report the case of a man who had infective endocarditis affecting both the tricuspid valve and the pulmonary valve three years apart from each other, without any well-defined risk factor.

Keywords: Pulmonary valve; Infective endocarditis; Echocardiography

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AN ATYPICAL CASE OF DIGEORGE SYNDROME WITH AN AFFINITY FOR THE HEART – A CASE REPORT

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Background: DiGeorge syndrome is a genetic disorder caused by a microdeletion at chromosome 22 (22q11.2) and characterized by aplastic thymus, recurrent infections, hypocalcemia, facial dysmorphism and congenital heart diseases such as ventricular and/or atrial septal defect, atrioventricular canal defect.

Objective: The purpose of this paper is to present a case of a 5-months-old infant known with multiple ventricular septal defects (VSDs) both muscular and perimembranous, patent foramen ovale (PFO), second-degree pulmonary hypertension, mitral regurgitation (Grade II), NYHA/ROSS II/III heart failure, DiGeorge syndrome and moderate protein-calorie malnutrition.

Material and methods: The patient, who is in the evidence of the Emergency Clinical Hospital for Children from Cluj-Napoca since she was 13-days-old with the diagnosis of VSDs and PFO and who is under treatment with Furosemide, Captopril and Spironolactone, was admitted for a clinical and imagistic preoperative evaluation. Regardless of how a typical DiGeorge syndrome presents, in this case, the clinical examination did not reveal facial dysmorphism or thymus aplasia. Instead, the patient presented with frequent interruptions of breastfeeding; poor weight gain (PI=0.81); a loud and harsh systolic murmur (Grade III/IV) with irradiation over the entire precordium area. The laboratory panel pointed out a highly elevated NT-proBNP of 14269 pg/ml and a normal renal and liver function. Echocardiography highlighted a muscular VSD of 1.2 mm and a perimembranous VSD of 5 mm, PFO of 2 mm, second-degree pulmonary hypertension, grade II mitral regurgitation with a normal left ventricle function (FE=62%).

Results: The patient was transferred to the Cardiovascular Surgery Clinic for the treatment of the VSDs with the indication to continue the current treatment and to follow the prophylactic antibiotic against infective endocarditis.

Conclusions: Overall, we would like to emphasize the fact that a genetic disease might have an atypical presentation in contrast to the classic cases.

Keywords: DiGeorge syndrome, VSDs, PFO

A NEW PROTOCOL IN THE ENDOVASCULAR TREATMENT OF AORTIC DISSECTION - "COMPLETE ENTRY AND RE-ENTRY NEUTRALIZATION"

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Background: Aortic dissection represents a tear between the inner layer and the media, leading to a progressively growing false lumen.

Objective: The first protocol for endovascular treatment of aortic dissection is "Endovascular aortic/aneurysm repair" (EVAR), which is performed by inserting an expandable stent via the femoral artery and covering the proximal defect of dissection. The main complication of this technique is aneurysmal degeneration. That is why there was a need for a new protocol.

Material and methods: Thus, the following protocol was proposed: "Complete Entry and Re-entry Neutralization" (CERN), a protocol based on six basic rules: A. cover both proximal and distal entry tears – decreases the risk of postoperative aneurysmal degeneration; B. the use of a bare-metal stent (BMS) with a larger diameter than necessary - 5-15% for a firmer attachment between the intima detached from the rest of the wall, and the distal insertion of the BMS of a graft with its extension up to 6-10 cm from the celiac trunk to amplify the radial force of the stent; C. the use of the STABILISE technique – which involves collapsing the false lumen with a balloon; D. a thrombus in the false lumen can be used as a "plug"; E. avoid stenting the visceral branches; F. spare the circulation in the small intercostal and lumbar branches - through BMS.

Results: A non-randomized study was performed on 68 patients divided into two groups to verify this protocol. Post-intervention, at 24 months, an improvement in aortic remodeling was observed from 25% to 85% compared to the EVAR protocol.

Conclusions: All in all, we consider that is mandatory to look after any new contribution to the medical act that appears in the literature and to spread it in order to improve the quality of patient's life.

Keywords: Aortic dissection, endovascular treatment

RARE CONGENITAL ABNORMALITIES OF THE CORONARY ARTERIES

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Background: Even if coronary artery congenital anomalies are not common, they represent the second cause of sudden death, mostly because diagnostic challenges and poor symptoms in complaining some patients. Imaging plays an essential role in the diagnosis of the diseases.

Objectives: Highlighting normal coronary anatomy and congenital coronary abnormalities, that may reflect in myocardial vascularization dysfunctions in adult age and high risk of sudden death.

Materials and methods: The imaging technique used was coronary CT angiography to assess coronary permeability in a patient complaining of chest pain, GE Revolution Discovery CT acquisition at Emergency Institute for Cardiovascular Disease and Transplant from Targu-Mures. The steps included acquisition for calcium scoring followed by dynamic administration of iodine contrast and saline flush using dual head injector, at an average heart rate of 57bpm. The acquisition parameters used were 100kV and 600mA. Images were post-processed using CV142 software v.5.13, obtaining multiplanar and three-dimensional reconstructions.

Results: The calcium score and the contrast enhanced evaluation excludes the presence of calcified or fibro-atheroma in the coronary paths. However, we have identified a rare coronary congenital anomaly that may explain the patient's symptoms: absence of left coronary trunk and a single coronary artery arising from right coronary cusp that trifurcates into RCA, LCX, LAD with malign inter-arterial course of LAD and benign retro aortic path of LCX. RCA had a normal course.

Conclusion: Based on the imaging methods used we discovered a rare congenital coronary anomaly including a unique coronary artery, malign course of LAD and benign course of LCX. Due to the hemodynamic abnormalities caused by anomalous coronary paths and the risk of sudden death, these conditions need close supervision and even surgical approach.

Keywords: coronary artery, rare congenital abnormalities, coronary CT angiography

DIAGNOSTIC AND THERAPEUTIC: USE OF ADENOSINE IN SUPRAVENTRICULAR TACHYCARDIAS. TWO CASE REPORTS

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Background: Adenosine is a purine nucleoside considered as type V antiarrhythmic drug used for diagnosing supraventricular tachycardia (SVT) and termination of atrioventricular nodal reentry tachycardia (AVNRT).

Objective: The aim of this study was to highlight the diagnostic and therapeutic use of adenosine in 2 different cases of SVT.

Material and methods: Case 1 was a 75-year-old male, known with heart failure with reduced ejection fraction and complete left bundle branch block (LBBB) presented in the emergency room with asymptomatic tachycardia of 140bpm, recognized in routine blood pressure measurement. His blood pressure was 100/60mmHg and the echocardiography showed an ejection fraction of 40% with global hypokinesia. The ECG showed wide QRS tachycardia with LBBB morphology. Intravenous metoprolol was given without success. Additionally, intravenous adenosine was administered with saline flush. Case 2 was a 46-year-old woman admitted to the emergency room for palpitations and shortness of breath. The blood pressure was 110/80mmHg and the echocardiography showed an ejection fraction of 60%. The ECG revealed AVNRT, with narrow QRS complexes, having a heart rate of 211bpm. A bolus of adenosine was given with saline flush, rapidly obtaining a heart rate of 80bpm, with the symptoms remission. In both cases, multi-function electrode pads were attached to the patient's chest.

Results: Case 1, the ECG after adenosine administration revealed "saw-tooth" pattern of inverted flutter waves, diagnosing this SVT as counterclockwise atrial flutter with 2:1 conduction ratio with complete LBBB. In case 2, the adenosine administration suppressed the AVNRT.

Conclusions: Adenosine can be used either as a diagnostic tool in order to reveal the supraventricular ectopic electrical activity, or as a therapeutic tool in AVNRT. Caution has to be taken because, in some cases, dangerous adverse effects have been reported, such as acceleration of ventricular response or persistent complete heart block.

Keywords: adenosine, atrial flutter, AVNRT, adverse effects

ACUTE MYOCARDITIS MIMICKING AN ACUTE CORONARY SYNDROME

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Background: Acute myocarditis is an inflammation of the myocardium that can mimic an acute coronary syndrome (ACS). Due to its multifaceted clinical presentations, acute myocarditis can be difficult to diagnose.

Objective: This case emphasizes the importance of performing a correct differential diagnosis in patients presenting with ACS-like symptoms.

Material and methods: We report the case of a 40-year-old man, former smoker, without relevant personal or family cardiac history. The day prior to hospital admission, he presented two episodes of angina pectoris (AP) at low physical effort responsive to rest and sublingual nitroglycerine. At presentation, he was free from AP and had stable vital parameters. His ECG showed negative T-waves in leads I, II, aVL and V_3 to V_6. Laboratory data revealed positive troponin I, CK-MB test, and elevated AST values, leading to a primary diagnosis of non-ST segment elevation myocardial infarction. Coronary angiography revealed slow flow in the coronary arteries, but no significant lesions were observed. At ventriculography, the patient presented an efficient left ventricle (LV), with mild hypokinesia of the two apical thirds of the LV anterior wall. Cardiac MRI performed two weeks after the initial presentation showed LV with normal volumes and systolic function. The T2-weighted-imaging revealed high-intensity signal areas within the posterior and lateral LV walls, strongly suggestive for acute myocarditis.

Results: Under beta-blocker and angiotensin converting enzyme inhibitor therapy, the patient remained asymptomatic at the follow-ups, when echocardiography showed no kinetic abnormalities and the ECG showed full resolution of previous abnormalities.

Conclusions: In patients with acute myocarditis and ACS-like clinical presentation, the correct diagnosis can be missed due to the primary suspicion of ACS. In the present case, coronary angiography excluded the presence of significant coronary lesions and cardiac MRI strongly supported the diagnosis of acute myocarditis.

Keywords: Acute coronary syndrome, Acute myocarditis, Myocardial disease

ARTERIAL SWITCH SURGERY FOR DEXTRO-TRANSPOSITION OF THE GREAT ARTERIES IN A 30-DAY-OLD NEONATE

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Background: Dextro-transposition of the great arteries (d-TGA) is a congenital heart defect, it is characterized by an abnormal positioning the great vessels, in which the pulmonary artery arises from the left ventricle and the aorta originates from the right ventricle. This leads to oxygenated blood being pumped into pulmonary circulation, and deoxygenated blood entering systemic circulation, leading to cyanosis and hypoxia. It represents a common congenital cardiac lesion in neonates. Neonates affected by d-TGA often feature additional congenital defects such as ventricular-septal defects.

Objective: The purpose of this paper is to highlight the case of 30-day-old boy with d-TGA, atrial-septal defect (ASD) of the type non-restrictive ostium secundum with left-to-right shunt, Type IV (trabecular) ventricular-septal defect (VD-VS) and patent ductus arteriosus (PDA).

Material and methods: The patient was delivered at week 37 via natural birth, weighing 3000 grams. After delivery the neonate was immediately transferred to the intensive care unit, where a cardiology consultation was obtained and yielded the afore-mentioned diagnoses. On the 3rd day of life, the patient underwent Balloon Atrial Septostomy (Rashkind-Procedure) under ultrasound guidance, with favorable initial evolution. On day 18, the patient's general status deteriorated rapidly, paraclinical investigation confirmed coagulase-negative staphylococci and so, antibiotic therapy was continued. On day 30, the patient was referred to the Cardiovascular Surgical Clinic. Surgery was performed to restore the normal anatomy of the heart.

Results: The patient underwent atrial switch surgery to correct the large vessel transposition. The septal defects were corrected via suture. The Purastat-3-D was utilized to achieve hemostasis. The PDA was ligated.

Conclusion: Due to its prevalence in neonates it is important to appreciate treatment principles. Neonates presenting with d-TGA must undergo surgery to reverse the resulting chronic hypoxia.

Keywords: Dextro-Transposition of the Great Arteries, Congenital Heart Defect, Balloon Atrial Septostomy, Arterial Switch Surgery, Cardiovascular Surgery.

CHALLENGES IN TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) AND IN-STENT RESTENOSIS – CASE REPORT

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Background: Transcatheter aortic valve implantation (TAVI) is an indispensable procedure for patients with severe aortic stenosis according to European society of cardiology guidelines 2021 (ESC). Right now TAVI is an alternative to surgical aortic valve replacement (SAVR) for patients with high cardiovascular surgical risk.

Objective: We present a case about an 85 years old male patient with multiple cardiovascular diagnosis: severe aortic valve stenosis, arterial hypertension, chronic heart failure (NYHA III classification), recent inferior myocardial infarction (N-STEMI), right bundle branch block, percutaneous transluminal coronary angioplasty (PTCA) with three drug-eluting stents (DES) implantation on right coronary atery RCA II, moderate mitral regurgitation, ventricular extrasystole arrhythmia and multiple cardiovascular risk factors; diabetes mellitus type 2 and dyslipidemia.

Material and methods: The patient was admitted in emergency with dyspnea and fatigue, after one month since his last PTCA (November 2021). The clinical examination revealed: aortic systolic murmur 4/6, BP 120/60 mmHg, HR 80 bpm, ECG with chronic inferior myocardial infarction and right bundle branch block, echocardiography showed severe left ventricular dysfunction (LVEF 30%), sever aortic valve stenosis (Vmax 5 m/s, Mean gradient 60 mmHg, AVAi 0.4 cm^{2}/m^{2} BSA) and moderate mitral valve regurgitation. CT scan was made for TAVI protocol which revealed an 5114 Agatston calcium score, both coronary arteries presented severe calcification that were also found to the aortic tricuspid valve and 90% in-stent restenosis on RCA II.

Results: we did elective coronarography with PTCA and DES implantation on RCA II, after that within 7 days we did TAVI procedure with Edwards Sapien 3 no 23 system approach with favorable results.

Conclusions: according to European society of cardiology guidelines 2021 (ESC) coronary artery disease is common in patients with severe aortic valve stenosis. Challenges of our case were presented by patient's age, multiple cardiovascular comorbidities, severe left ventricular dysfunction and severe coronary artery disease with recent in-stent restenosis. TAVI procedure was used according ESC guidelines 2021 recommendation.

Keywords: TAVI, PTCA, coronary artery disease, sever aortic valve stenosis.

STRATEGIES AND TECHNOLOGIES IN VASCULAR TISSUE BIOENGINEERING

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Background: Cardiovascular disease is still the leading cause of death in the world, with a very high clinical need to replace altered vascular tissue. Although the use of autologous structures due to immunocompatibility and mechanical properties is preferred, this is not always possible, being limited for example to patients with chronic diseases such as diabetes. In this sense, tissue engineering is useful, which seeks methods to create a viable option for replacing altered vessels with grafts that can mimic the body's structures.

Objective: One of the aims of the project is to systematize the studies performed in the field of vascular tissue bioengineering, by identifying relevant and current scientific articles, managing to accumulate as much information on this subject.

Material and methods: for the systematic creation of the review, only the articles related to the proposed topic were selected, that have a certain degree of topicality, illustrating the progress of tissue bioengineering, as well as the difficulties encountered. The information extracted from Tissue-engineered vascular grafts (TEVGs) includes: Scaffold fabrication and materials used, type of seeded cells, mechanical and histological properties, as well as In vivo implantation and graft patency (on different experimental animals that have a similar human anatomy and physiology).

Results: A comparison is made between the methods and types of graft used and the results of the studies, in order to highlight the progress and the characteristics as close and tangible as possible to the creation of ,,off-the-shelf "TEVGs.

Conclusions: Due to the increased need to replace vascular grafts, tissue bioengineering may be the answer to future therapies, representing a major scientific interest, trying to improve the techniques and eventually replace the use of the current „gold standard"

Keywords: bioengineering, blood vessel, vascular graft

COMPLEX HAND TRAUMA ASSOCIATED WITH QUASI-AMPUTATION ON A PEDIATRIC PATIENT: A CASE REPORT

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Background: Mutilating hand injuries in pediatric patients are associated with significant functional impotence, affecting the quality of life. Good results can be achieved by careful planning and early intervention.

Objective: The aim of this report is to present the surgical management of a mutilated hand after a house accident on a pediatric patient.

Material and methods: A 2-year-old boy was admitted in the Pediatric Surgery Department after suffering a crushing injury to his right hand due to family negligence. After physical examination and X-ray evaluation, final diagnosis was: quasi-amputation of fingers 2-5, metacarpal and phalanx fractures and injuries of the flexor and extensor tendons of the right hand. Due to the massive damage and complexity of the lesion, the surgery was managed as an emergency procedure. After excisional debridement and cleaning of the injury, the surgical team found multiple layered lesions with elongation and destruction at the level of fingers 2-5, partially crushed thumb and severe damage to the vascular system. The medical team opted for osteosynthesis with centromedullary brooch at the second finger and modeling a metacarpal 3-4 abutment. Dorsal venorafia and extensor tendon tenorafia were performed to restore the affected layers of the hand. After that, the defect was covered with a rotated local flap and immobilized in the eraser splint.

Results: Two weeks after the surgery, skin necrosis was found on the second finger, imposing immediate reintervention. The procedure consisted of debridement of devitalized tissues and covering the defect with a full-thickness skin graft.

Conclusion: Management of the mutilated hand is complex and requires multidisciplinary approach as early as possible. With massive efforts of replantation and revascularization, together with a good recovery program, these patients can lead a normal life afterwards.

Keywords: quasi-amputation, osteosynthesis, revascularization

MORE AGGRESSIVE THAN EXPECTED: THE EVOLUTION OF TRIPLE NEGATIVE BREAST CARCINOMA – CASE REPORT

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Background: The most frequent form of cancer in women, invasive ductal carcinoma, can present itself in a clinically challenging type: triple negative breast cancer. Defined by the absence of estrogen, progesterone and HER-2 receptors, this pathology is associated with a more aggressive evolution, fast dissemination and higher recurrence rate.

Objective: This case report aims to present an abnormal manifestation of a triple negative breast carcinoma and the therapeutic difficulties that occurred during the mixed oncological and surgical approach.

Material and methods: 41-year-old female patient, initially misdiagnosed with phyllodes tumor, known with two toilet mastectomies on the left breast and six rounds of chemotherapy and radiotherapy for a triple negative invasive ductal carcinoma, presents to the ER with exulcerated, superinfected, necrotic-hemorrhagic tumor. Surgically, a left radical tumorectomy is performed, along with pectoralis major muscle removal. Due to the large skin defect, a skin graft is used to cover it, but the intervention is delayed until the initial 4g/dl hemoglobin is corrected to 5,5g/dl.

Results: Due to the invasion of the supraclavicular, axillary and thoracic lymph nodes, the case is declared further inoperable. The patient is noncompliant to chemotherapic treatment and has multiple ER admissions for tumor recidive, surprisingly fast multiplication of permeation nodules and septic state.

Conclusions: Triple negative breast carcinoma is by definition an aggressive type of tumor with a poor life expectancy. The particularity of this case is the abnormal tumoral progression for this type of cancer. The inoperable status alongside the patient's chemotherapy refusal led to the tragic evolution in which palliative care is the only option left.

Keywords: Ductal carcinoma, Triple negative, Mastectomy

DOUBLE URETHRA: A RARE UROLOGICAL MALFORMATION IN CHILDREN - CASE REPORT

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Background: Duplication of urethra is one of the rarest congenital malformations of the urinary tract, that has been classified by Effman in: blind incomplete urethral duplication (type 1), complete patent urethra duplication (type 2) and urethral duplication which arises from duplicated or septate bladders (type 3). Complications from this pathology, such as hydronephrosis and recurrent urinary tract infections, can be often misdiagnosed with more common etiologies.

Objective: Our purpose is to emphasize the importance of a thorough medical exam, in order to correctively diagnose urethral duplication.

Material and methods: A 4-year-old boy with recurrent urinary tract infections has been diagnosed with pyeloureteral junction stenosis and hydronephrosis. The medical team elected a right ureterostomy as the surgical treatment, but the patient's symptoms kept persisting. At the following admission, during cystography, the urethrovesical catheter introduced in the penile meatus has stopped at the base of the penis, with no possibility to advance. The radiologic exam confirmed the lack of continuity between the urethra and the bladder; the clinical inspection reveals a second urinary meatus in the anus, this time the urethrovesical connection being proved. Unfortunately, surgery in this particularly case is contraindicated due to the high risk of sectioning the anal sphincter which will lead eventually to fecal incontinence.

Results: The cystography revealed a non-communicant penile urethra and a second one in the anterior anal canal wall (12 o'clock positioned), which was connected to the urinary bladder.

Conclusions: Although a very uncommon clinical entity, duplication of urethra can be easily diagnosed if the paraclinical investigations are accompanied by a thorough medical exam. When confirmed, the treatment plan should be individualized for every patient and the complications treated.

Keywords: Urethra duplication, Hydronephrosis, Cystography

HEMORRHAGIC VARICELLA IN A CHILD WITH ACUTE LYMPHOBLASTIC LEUKEMIA: A THERAPEUTIC CHALLENGE

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Background: Acute lymphoblastic leukemia, occurring mainly in childhood, has a good prognosis with curative potential in 80% of cases following appropriate chemotherapy treatment. Varicella is a viral infection caused by the varicella-zoster virus and it is the primary infection that usually is encountered in childhood. A very rare form is hemorrhagic varicella, which appears especially in immunocompromised patients.

Objectives: The purpose of this paper is to present a case of an immunocompromised child who developed hemorrhagic varicella, which often has a fatal prognosis.

Material and methods: A 5-year-old male patient, known with medium risk acute lymphoblastic leukemia with T cells, responding to cytostatic treatment according to the ALL BFM 2002 protocol, presented diffuse erythematous-maculo-papular eruptions, with altered general condition and diffuse abdominal pain. Two days later, he developed acute epistaxis, treated with nasal packing, and locally applied hemostatic agents. Surgical and infectious disease consultations were performed, followed by abdominal and chest CT.

Results: Acute surgical abdomen was ruled out and the patient was diagnosed with a severe form of varicella. CT described a 6 mm right upper lobe node and pericarditis. During hospitalization, he presented leukopenia with neutropenia, thrombocytopenia, and severe anemia, for which he received substitution treatment. Chemotherapy was delayed and antibiotics, antifungals, and antivirals were introduced.

Conclusion: In its hemorrhagic form, varicella infection is very rare, and it has a high mortality rate, but due to a quick and correct diagnosis, followed by intensive treatment, this patient had a favorable evolution.

Keywords: hemorrhagic varicella, acute lymphoblastic leukemia, immunosuppression, pediatric

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POSTOPERATIVE COMPLICATIONS IN A NEWBORN MALE UNDERGOING ARTERIAL SWITCH SURGERY FOR TRANSPOSITION OF THE GREAT ARTERIES

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Background: The transposition of the great arteries is a common pediatric congenital heart malformation characterized by the inversion of both the aorta and pulmonary artery (atrioventricular concordance and ventriculoarterial discordance), leading to both circulations to be in parallel.

Objective: To report the case of a newborn male patient with intrapartum diagnosis of transposition of the great arteries which developed post-operative complications after undergoing surgical correction, despite the fact that most cases have excellent outcomes.

Material and method: In this report, we describe a 5-week-old male infant born at 37 weeks, weighing 3400g, diagnosed intrapartum with transposition of large vessels, adapting with generalized cyanosis and mixed respiratory failure. Cardiac echocardiography performed 30 minutes after birth described a small persistent arterial duct, 5.6 mm restrictive atrial septal defect (ASD) with left-right shunt, and transposition of large vessels for which was recommended Prostaglandin E1. Transfontanelar ultrasound showed moderate cerebral edema. On the 12th day of life, the surgical correction comprising arterial switch surgery and ASD closure was performed, but with unsatisfactory postoperative evolution, as the patient developed chylothorax and acute renal failure, for which he was recommended peritoneal dialysis.

Results: At the age of 6.7 years, the patient was admitted for follow-up control. Echocardiographic reassessment revealed minor neoaortic insufficiency, slightly dilated aorta and turbulent flow at the level of pulmonary branches bifurcation, with medium/significant flow in the pulmonary branches in the condition of a normal-functioning right ventricle.

Conclusion: The causes of congenital heart defects such as this one are unknown in most pediatric cases. Prostaglandin is used to preserve patency of the arterial duct or maintain appropriate mixing between the two circulations, followed by arterial switch surgery, which ensures life after birth. Even though postoperative complications may occur, current survival rate is higher than 90%.

Keywords: Transposition of the great arteries, arterial switch

COVID-19-ASSOCIATED ENCEPHALITIS: CASE REPORT

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Background: Encephalitis is a condition in which the brain becomes suddenly inflamed. Many cases are caused by a viral infection or the immune system attacking brain tissue inadvertently. Various neurologic diseases associated with the SARS-CoV-2 infection have been reported during the coronavirus pandemic (COVID-19).

Objective: We want to emphasize that the COVID-19 infection can cause severe brain complications, for-instance encephalitis.

Material and methods: We present the case of a 63-year-old female patient, unvaccinated against COVID-19, which presented 3 weeks before hospitalization an intercurrence manifested by cough and dyspnea. A few days later, due to oscillating glycemic values, she experienced vertigo, eyesight disorders and disorientation. At the Ludus Hospital the symptomatology persisted for the subsequent 5 days. She was transferred to SCJU Targu Mures, where a neurological examination and a cranio-cerebral CT scan were performed, showing no neurological sings. As her state deteriorated, she was transferred to Targu Mures Hospital, where another neurological exam was performed. The patient manifested: right homonymous hemianopsia, intermittent horizontal nystagmus grade 3, left divergent strabismus, Babinsky sign positive bilaterally, Marinescu-Radovici sign positive on the right sight, right crural monoparesis grade 4/5, temporospatial disorientation. Furthermore, the cerebral MRI portrayed a subdued hypersignal lesion located in the left paraoccipital gyrus, as well as a few subcortical bihemispherical lesions smaller than 4mm. Both the EEG and Echo Doppler examinations showed pathological changes.

Results: The final diagnosis was secondary encephalitis and viral pneumonia, feasibly caused by SARS-CoV-2 post infection. The patient followed antibiotic and corticosteroid treatment. 6 weeks succeeding from her discharge, an additional cerebral MRI was made, with no pathological signs.

Conclusions: Furthermore, the fact that SARS-CoV-2 is primarily a respiratory virus suggests that neurological symptoms are uncommon. In individuals with SARS-CoV-2 infection, the risk of COVID-19-associated encephalitis is low.

Keywords: Encephalitis, SARS-CoV-2, neurological sings, brain.

HYPOLIPEMIC TREATMENT POSSIBLE CAUSE OF IATROGENIC SEXUAL DYNAMICS DISORDER

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Background: The most common disorder of sexual dynamics is erectile dysfunction, being specific to patients aged between 45 and 55 years. Both physiological and psychological factors are among the most common causes of erectile dysfunction, the first risk groups being patients with heart disease and diabetes.

Materials and method: We performed the analysis of 2254 medical files of some patients with sexual dynamics disorders, 809 of them also having dyslipidemia. The determinations were performed in a medical analysis laboratory, followed by a penile Doppler ultrasound.

Results: We found that a key factor is the environment of origin, so patients in urban areas, more precisely those around the age of 60 have a high risk of developing sexual dynamics disorders.

Conclusions: Correct information to patients with dyslipidemia, especially those undergoing or will be receiving statin treatment, is a means of preventing iatrogenic and psychoemotional sexual dynamics disorders.

Keywords: dyslipidemia, hypolipidemic treatment, erectile dysfunction

ACRAL LENTIGINOUS MELANOMA: A CASE REPORT

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Background: Acral lentiginous melanoma is a rare and aggressive type of skin cancer that is not related to exposure to UV radiation. The tumor occurs on non-hair-bearing surfaces of the body as palms, soles, nails, and oral mucosa.

Objective: Patients with acral lentiginous melanoma usually present at later stages and delayed diagnosis is associated with low survival rates. The purpose of this case report is to emphasize the histopathological characteristics of this distinct subtype of melanoma and the importance of an early integrated clinical and histologic diagnosis.

Material and methods: A 78-year-old female patient was admitted to the Plastic Surgery Department with an ulcerated lesion of 27x25x3 mm in size, localized on the third finger of the left foot. The microscopic examination demonstrated an invasive melanocytic cell proliferation, with cytologic atypia and pagetoid spread. The proliferation of melanocytes was also observed along the eccrine ducts in the reticular dermis (Clark level 4). The tumor was ulcerated, with a Breslow thickness of 3,3 mm and mitotic rate of 13/10 HPF, with Brisk Tumor-Infiltrating Lymphocytes. The surgical margins are negative, with no evidence of nail involvement, vascular invasion or neurotropism. The tumor cells were intensely positive for immunohistochemical markers S100, SOX10, HMB45, and Melan A/MART1.

Results: After macroscopic and microscopic evaluation, the histopathological diagnosis was ulcerated acral lentiginous melanoma, stage pT3b, Clark level 4, with negative surgical margins.

Conclusions: Despite the progress in understanding melanoma, the diagnosis of early-stage acral melanoma is still challenging. To establish the appropriate oncologic treatment, the patient was directed to KIT, BRAF, and NRAS genetic testing and further investigations for metastasis.

Keywords: acral lentiginous melanoma, immunohistochemistry, histopathological diagnosis

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NEW APPROACHES TO BREAK DOWN THE BOUNDARIES BETWEEN DEAF-MUTE PEOPLE AND DOCTORS

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Background: Language/communication barriers are an important health issue and have a big impact in our society. Deaf-mute patients often have limited access to effective communication in the health system, education process and social life. In this context, deaf people are at a higher risk for adverse health outcomes compared to hearing (non-deaf) people, anxiety, or other mental/physical risks.

Objective: Through our project, we want to summarize the research of the last years on the studies related to the prevention, with the help of the technology of the diseases / affections of the deaf-mute people. This summary presents to the scientific society, the advantages and the advance of the technology of the last years.

Materials and methods: We searched for results and studies using keywords such as “artificial intelligence,” “gesture recognition” and “deaf-mute people,” and then, we extracted the most valuable information from each article or study, analysing every information and afterwards we gave our conclusions.

Results: Some of the articles show us the importance of preventing the aggravation of existing diseases/ailments in deaf-mute people because they do not want to disturb the translator if it is a small medical problem, so they postpone coming to the doctor and existing conditions can worsen. To solve this problem, as well as communication deficiencies, there are countless research and software programs that detect, with the help of artificial intelligence, the movements of deaf-mute people’s hands, and then “translate” them to doctors.

Conclusions: Research/studies expect the prophylaxis to increase among deaf-mute people and this comes with a reduction in hospitalization/interpretation/transport costs, etc. because the person ends up be treated at an early stage and not when the disease/condition worsens. In this way any deaf-mute person can go both to control and change bandages in an efficient and independent way.

SOLID PSEUDOPAPILLARY NEOPLASM OF THE PANCREATIC HEAD: A RARE ENTITY

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Background: Solid pseudopapillary neoplasm (SPN) of the pancreas is an unconventional lesion, which is mostly located in the pancreatic tail. It represents less than 1-2% of all exocrine tumors.

Objectives: To present an unusual case of SPN diagnosed in a young female.

Material and methods: A 33-year-old woman, was admitted at the Emergency Room, complaining of abdominal pain, nausea and weight loss. Symptomatology was inconclusive, although, based on imagistic examination, suspicion of pulmonary and pancreatic tuberculosis was raised. To confirm the suspicion, intraoperative frozen sections examination was conducted. As the frozen sections revealed a malignant process, curative Whipple procedure was recommended for the tumor of the pancreatic head.

Results: Macroscopic examination of the surgical specimen revealed a well-defined encapsulated lesion of 11 cm diameter, with cystic aspect on cut section. Under microscope, cystic spaces were lined by pseudopapillary structures formed along hyalinized septa, along with calcification and hemorrhagic areas. Immunohistochemical stains showed nuclear positivity of tumor cells for beta-catenin, SOX11, Cyclin-D1, and Progesterone Receptors, whereas vimentin marked the cytoplasm. Scattered cells also emphasized CD10, Synaptophysin and CD56. No immunostaining for Chromogranin or Ki67 was emphasized. As the tumor capsule was not crossed, lymph node metastases were not identified and suspicion of lung tuberculosis was denied, the case was diagnosed as a low-grade non-metastatic SPN. The IHC stains confirmed the diagnosis and the suspicion of a neuroendocrine tumor or an acinar cell carcinoma was eliminated. Long-term imagistic follow-up, without any oncologic therapy was recommended.

Conclusions: As SPN of the head of the pancreas is a rare histologic subtype, histopathological diagnosis can be difficult and cannot be done without IHC stains. A proper diagnosis is mandatory for a proper oncologic outcome.

Keywords: pancreatic head, solid pseudopapillary neoplasm, Whipple procedure, SOX11.

THE INTRICACIES OF THE SARS-COV-2 INFECTION – UNCOMMON POST-INFECTION COMPLICATIONS - A RARE CASE OF VASCULITIS

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Background: The COVID-19 pandemic has had a considerable impact on our everyday lives, presenting long-term repercussions on our health. The infection has been linked to a variety of cutaneous symptoms, including vasculitis, or the inflammation of blood vessels.

Objective: The aim of our presentation is to emphasize the importance of being attentive when treating patients and making the diagnosis, always keeping the unique coronavirus infection in mind, regardless of the symptomatology.

Material and methods: We present the case of a 20-years-old female patient, unvaccinated against the SARS-COV-2 virus that has been formerly treated with non-steroidal anti-inflammatory drugs for a respiratory infection. A week succeeding the acute episode, a generalized skin rash appeared, concluding the diagnosis to polymorph erythema, and raising the suspicion of Henoch-Schonlein purpura. The patient was recommended corticosteroid treatment, which she did not follow, leading to a plethora of symptoms that appeared the following month and requiring hospitalization in our clinic. She manifested a decrease in muscle strength in the left lower limb, generalized pustular rash, left eye exophthalmos, left eye mydriasis with bilateral photomotor reflex present, left facies hyperhidrosis, left crural monoparesis grade 4 + / 5MRC, Babinski sign sketched on the left, superficial hypoesthesia of the left lower limb and GCS 15. The following investigations have been significant: CT scan with no pathological alterations, positive RT-PCR test and a skin biopsy that suggested the presence of leukocytoclastic vasculitis.

Results: The diagnoses of post-infection secondary leukocytoclastic vasculitis and SARS-CoV-2 and subnephrotic proteinuria have been established and the patient has been prescribed corticosteroid medication treatment.

Conclusions: Several consequences of the SARS-COV-2 infection are yet to be discovered, as long-term symptomatology can emerge in patients who have recovered from the initial acute episode, challenging decision making and the election of proper treatment.

Keywords: COVID-19, Vasculitis, Auto-immune disease

DEVICE MIGRATION IN TAVI PROCEDURE RESULTED IN VALVE-IN-VALVE IMPLANTATION

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Background: The transcatheter aortic valve implantation (TAVI) is an uprising alternative for surgical aortic valve replacement (SAVR) in patients with severe aortic stenosis. TAVI is especially used in patients with high perioperative risk associated with cardioplegia during SAVR. Recent studies suggest that TAVI is also superior to SAVR in patients with low perioperative risk.

Objective: We will present the case of an 80-year-old patient with a history of moderate aortic stenosis on maximum drug therapy who was referred to the hospital with aggravated fatigue and dizziness.

Material and methods: Vital parameters were stable with blood pressure of 125/70mmHG and oxygen saturation of 97%. 12-lead-ECG showed sinus rhythm and signs of left ventricular hypertrophy with “strain pattern”. Echocardiography revealed left ventricular load and hypertrophy of the septum with an ejection fraction of 60%. The aortic transvalvular mean pressure gradient was 48mmHg. Aortic valve (AV) area measured 0,7cm², indicating severe aortic stenosis. Consequently, aortic valve replacement was required as therapeutic intervention. EuroSCORE-II with 3.85 showed moderate perioperative risk, wherefore decision for TAVI was made.

Results: In first AV-implementation, device migration occurred which resulted in superior placement of the valve in the ascending aorta. Decision for valve-in-valve (ViV) transcatheter aortic implantation with implantation of a second AV was made intraoperative. Following postoperative echocardiography revealed aortic transvalvular mean pressure of 15mmHg, with minor aortic regurgitation. Additional CT angiography showed correct placement of the second AV and proper vascularization of both coronary arteries. The first implemented valve.

Conclusion: TAVI represents a safe alternative for AV replacement in patients with moderate to high perioperative risk. However, TAVI brings challenges like the closure of coronary arteries, aortic regurgitation, stroke, atrioventricular nodal block and, compared to SVAR, an increased risk for valvular thrombosis.

Keywords: TAVI, severe aortic stenosis, device migration, ViV implantation

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CUTANEOUS MYXOMA: A POTENTIAL SIGN OF CARNEY’S COMPLEX

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Background: A cutaneous myxoma is a rare benign neoplasm that occurs as a nodule on the skin, head, neck, or chest. Furthermore, myxomas may represent a manifestation of Carney’s Complex, characterized by multiple benign tumors, usually affecting the heart, skin, and endocrine system.

Objective: The case report aims to highlight the importance of early diagnosis of cutaneous myxoma since this type of lesion can be among the first signs of Carney’s complex, signaling the presence of a potentially deadly cardiac myxoma.

Materials and methods: A 72-years-old male patient was admitted to the Plastic Surgery Department with a cutaneous tumor on the posterior thorax. An excisional biopsy of the lesion was performed. The gross examination revealed a gray papillomatous mass of 22x12x14 mm in size. On cross-section, the tumor had a gelatinous content. Microscopically, pathologists observed a multi-lobulated, well-circumscribed lesion localized in the dermis and superficial subcutaneous tissue. The tumor consisted of an abundant myxoid matrix with very low cellularity (scattered spindled and stellate cells). Neutrophilic inflammatory infiltrate was noticed around blood vessels. Immunohistochemistry revealed that tumor cells are positive for SMA and Vimentin.

Results: After macroscopic and microscopic evaluation, the histopathological diagnosis was cutaneous myxoma, with negative surgical margins.

Conclusion: The patient will need further clinical and paraclinical investigations to exclude other skin and cardiac myxomas, or an endocrine over-reactivity related to Carney’s Complex.

Keywords: Cutaneous myxoma, Carney’s Complex, Immunohistochemistry

RADIOTHERAPY, FIRSTHAND HEMOSTATIC APPROACH, A CASE-BASED REPORT

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Background: Cervix uteri cancer (CU) is the 5th most diagnosed as well as the 5th most common cause of cancer related death in women. The origin of the tumor is at the exo- and endo-cervical junction, mainly caused by HPV 16 and 18 subtypes. Squamous cell carcinoma (SCC) is the most common histologic subtype, accounting for nearly 80% of diagnosed cases, whereas the rest, 20%, is made up by adenocarcinoma and adenosquamous carcinoma.

Objectives: To argue the usefulness of radiotherapy as hemostatic method.

Material and methods: We present the case of a 79-year-old patient who presented with abnormal vaginal bleeding (AVB). Gynecological examination revealed an extensive, necrotic cervical tumor. Rectal digital examination confirmed bilateral parametrial involvement. Biopsy established non-keratinizing SCC. Staging computed tomography (CT) showed 7x7x6cm space occupying mass at the cervical level. The tumor invades over half of the uterus, bilateral-parametria and on an over 4cm long area the anterior rectal wall, and the posterior wall of the urinary bladder. The tumor also involves the left urethra, causing grade I ureterohydronephrosis. Bilateral iliac lymphadenopathies of up to 10mm were also detected. There were no signs of distant metastasis. In time the AVB worsened, the patient requiring multiple transfusions and underwent palliative hemostatic radiotherapy with no success. Therefor selective embolization of the blood vessels supplying the tumor was done. Since bleeding was successfully managed, the patient is undergoing further palliative intent radiotherapy.

Results: In majority of cancers that cause bleeding, radiotherapy represents one of the best hemostatic treatment options. In the presented case however due to massive bleeding, radiotherapy was unsuccessful as hemostatic treatment and surgical intervention was needed.

Conclusion: In our case surgical hemostasis paved the way for further palliative radiotherapy which will improve quality of life by increasing local control.

Keywords: SCC, radiotherapy, catheteristaion, abnormal vaginal bleeding

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RADIOTHERAPY OF LEFT LUNG TUMORS, A CONTINUOUS CHALLENGE OVER THE NO-FLY ZONE: A CASE PRESENTATION

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Background: Lung Cancer is currently the 3rd most diagnosed type of cancer and is held accountable for being the deadliest among all. Two major types can be distinguished: small cell (SCLC) and non-small-cell carcinoma (NSCLC). NSCLC account for 85% of lung cancers and histologically 40% are Adenocarcinomas and 25% are Squamous cell carcinomas (SCC). SCLC accounts for the rest, 25%, of lung cancers.

Objectives: Emphasize the importance of precise contouring to minimize radiation dose to organs at risk.

Material and methods: We report the case of an 80-years old male patient who presented with left sided chest pain, dyspnea following intense physical activity. Chest computed tomography (CT) showed 72x43x53mm space occupying mass with spiculated irregular margins in the left inferior lobe (LIL) of the lung which extended from the hilum to the costovertebral sulcus abutting the posterior mediastinum. Enlarged peri bronchial lymph nodes were also detected with the largest in short axis being 12mm. Bronchoscopy and biopsy was performed from the primary tumor. Pathology reported an NSCLC suggestive for SCC. Brain CT scan did not show metastasis. The patient received external beam 3D conformal radiation therapy (3D-CRT) in total dose of 60Gy (gray)/30 fractions, 2Gy/fraction, 10 MV energy, over a period of 30 days to the LIL of the lung.

Results: The left hemithorax is considered in radiotherapy as being a challenging area for local treatment due to the presence of large vessels as well as the heart and pericardium, making this a no-fly zone. This patient received a full curative intent treatment, having only mild to moderate early side-effects managed with symptomatic treatment.

Conclusion: Irradiating specific regions can cause more harm than benefit, leaving no other choice than palliative care. This case successfully reports how precise contouring minimizes radiation dose in the no-fly zone.

Keywords: radiotherapy, SCC, no-fly zone

CUTANEOUS ECCRINE SPIRADENOMA – A RARE CASE OF BENIGN ADNEXAL TUMOR

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Background: Spiradenoma is an unconventional benign tumor derived from eccrine sweat glands. Frequently, the head and neck are the predilection areas. The most frequent symptoms are tenderness and pain. However, the pathomechanism of pain is yet not elucidated.

Objective: This case report provides information about a spiradenoma with an unusual localization. The diagnosis of this tumor is confirmed by a comprehensive microscopical examination that also helps in the differential diagnosis with a cylindroma, both having a specific aspect of turban tumors.

Material and methods: A 35-years-old female patient was admitted to the Plastic surgery Department with a white nodular tumor of 32X15X12 mm in size, localized on the upper third of the right forearm. An excisional biopsy of the lesion was performed. Microscopic evaluation revealed a well-delimited tumor, with basophilic solid and eosinophilic cystic areas. The solid areas consisted of small basaloid cells organized in a trabecular pattern. No atypia or mitotic activity was observed. In some areas ductal differentiation and marked stromal edema were present. Immunohistochemical stains showed the tumor cells were positive for CTK-AE1/AE3, and focally positive for SMA and EMA. The Ki-67 proliferation index was expressed by 10-15% of the tumor cells.

Results: Following histopathological and immunohistochemical examination, the diagnosis of cutaneous eccrine spiradenoma diagnosis was made.

Conclusions: Microscopic examination and immunohistochemistry are playing an important role in the diagnosis of cutaneous eccrine spiradenoma. Because the tumor may progress to its malignant counterpart, spiradenocarcinoma, the surgical excision is considered the gold standard of treatment, with low recurrence rates.

Keywords: cutaneous eccrine spiradenoma, immunohistochemistry, benign adnexal tumor.

HELA CELLS AND THEIR IMPLICATION IN APOPTOSIS TRIGGERING RESEARCH

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Background: All over the world, cancer is one of the leading causes of death. Due to this fact, many people have tried to find a treatment for it and a substantial amount of articles were written on them. A very important role was played in this research by HeLa cells, which are at their basis, cancerous squamous cells from the cervix of Henrietta Lacks, infected with HPV 18. This was the first ever cellular line that resisted in a culture environment. Because of their origin, resistance, and rapid growth, they were perfect for studying ways of triggering cellular death without immune response, in other words, apoptosis.

Objective: Because of the enormous amount of existent research on the topic, we wanted to summarize them in a review. The resulted paper is wanted to be a concise one, with an important scientific contribution.

Materials and methods: PubMed, Springer and Google scholar were used for search of keywords like “HeLa” and “apoptosis”, and after refinement and abstract reading, the most relevant ones were chosen and reviewed.

Results: Bcl-2 protein family and caspases were mentioned in numerous articles as the key of apoptosis activation. Trying to achieve this, trials were conducted, some with usage of new synthetic molecules and others focusing more on finding natural substances for apoptosis triggering, such as lutein and magnolol. The downregulation of anti-apoptotic proteins, such as survivin, with usage of intron specific short hairpin RNA and CRISPR, also resulted in cancerous cell destruction.

Conclusion: The need for targeted therapy in cancer is important to be kept in mind since we do not want to destroy healthy cells too, so targeted delivery was tried to be achieved through different techniques, like the usage of nanospheres with specific surface antibodies. The method was a success, but for a perfect cure to be found, further studies should be conducted.

Keywords: HeLa, apoptosis, Bcl-2

COMPUTED TOMOGRAPHY FINDINGS AND POSTOPERATIVE COMPLICATIONS IN A CASE OF TRANSPOSITION OF THE GREAT VESSELS

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Background: The transposition of the great vessels (TGV) is a congenital anatomical abnormality consisting of the left morphological ventricle being linked directly to the pulmonary trunk and the aorta draining the right morphological ventricle, causing hypoxia.

Objective: We want to highlight the fact that serious complications may still occur amid thorough radiologic consultation and optimal surgical approach in the case of patients with TGV.

Material and method: We present the case of a male newborn who was diagnosed after birth with TGV and pulmonary stenosis. The 1-week-old patient also proved to have NYHA/ROSS stage IV heart failure, atrial septal defect (ASD) and ventricular septal defect (VSD). Due to frequent desaturations, the patient was transferred to the Cardiovascular and Transplant Emergency Institute of Târgu-Mures. The echocardiographic evaluation confirmed the aforementioned diagnostics and emergency Rashkind septostomy was performed. Afterwards, the patient underwent a contrast CT scan which depicted the TGV with rotated aortic root and an anteriorly positioned non-coronary sinus, a subaortic membranous VSD, anomalous origin of the left circumflex artery, which presented common origin with the right coronary artery from the right sinus of Valsalva, an ASD and an enlarged persistent arterial duct.

Results: Following the radiological findings, the patient underwent surgical correction consisting of arterial switch surgery, closure of the ASD, VSD repair with heterologous pericardial patch and the closure of the PDA. The postoperative complications were: hemodynamic and respiratory instability, generalized edema, isolated ventricular extrasystoles, signs of ischemia on the electrocardiogram, bilateral pleural effusion and ascites, bilateral pulmonary atelectasis, chylothorax, infections with Klebsiella and MRSA and a hyperechogenic formation in the right atrium in the context of thrombocytosis.

Conclusions: The particularity of this case is given by the anfractuous recovery of the patient as several postoperative complications occurred.

Keywords: transposition of the great vessels, postoperative complications

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HISTOPATHOLOGICAL DIAGNOSIS OF UVEAL MELANOMA: A RARE AND FATAL CANCER

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Background: Ocular melanoma is the most frequently diagnosed primary ocular malignancy despite its rare incidence of only 5.1/million. Ocular melanoma mainly arises from the uveal tract and usually affects Caucasian people. Once uveal melanoma becomes metastatic, therapy options are limited.

Objective: This report aims to present from a histologic view the case of a 62-year-old woman who underwent enucleation of the left eye after being clinically diagnosed with an intraocular tumor and secondary glaucoma.

Material and methods: Gross examination of the enucleated eye shows an eyeball with an anterior-posterior diameter of 20mm, cornea measuring 10 mm in diameter, and optic nerve with a length of 2 mm. A cross-section of the superior limb reveals a tumor mass located in the posterior compartment of the eyeball of 17x11mm that extends from the posterior pole to the junction between the cornea and sclera. Positive findings in microscopic examination describe a malignant uveal melanoma that is 17 mm in diameter and 11 mm in thickness with secondary retinal detachment. However, the tumor does not protrude beyond the eyeball and does not involve the ciliary bodies. The optic nerve is not invaded, and the mitotic rate is 9 mitoses/40 HPF. Immunohistochemistry shows that the melanocyte tumor cell population is positive for HMB-45, S100, Melan A/MART-1, and SOX-10. Ki-67 proliferation index is expressed by 10-15% of the tumor cells.

Results: According to AJCC, 8th edition, the tumor has been diagnosed as uveal melanoma stage pT3a, 90% consisting of epithelioid cells (histologic grade-G3), referring to tumor size category 3, without ciliary body involvement and extraocular extension.

Conclusions: Histopathological examination plays an important role in diagnosis and prognosis, providing information about the tumor cell type, size of the lesions, and level of structural involvement.

Keywords: uveal melanoma, enucleation, retinal detachment, immunohistochemistry

PULMONARY VALVE STENOSIS ASSOCIATED WITH NOONAN SYNDROME – A CASE REPORT

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Background: Noonan syndrome is a pleomorphic autosomal dominant condition caused by a mutation in the PTPN 11 gene on chromosome 12. Cardinal features include short stature, development delay, distinctive facial dysmorphism and congenital heart diseases. The most prevalently various forms of congenital heart defects are pulmonary valve stenosis, septal defects and hypertrophic cardiomyopathy.

Objective: Taking into consideration that Noonan syndrome is a relatively rare disorder, our main intention is to present a case of an 11-months-old boy known with severe pulmonary valvular and supravalvular stenosis, NYHA/ROSS III heart failure, left choroid plexus cyst, moderate protein-calorie malnutrition and facial dysmorphism based on which the diagnosis of Noonan syndrome was suspected.

Material and methods: The patient was admitted to the Emergency Clinical Hospital for Children from Cluj-Napoca for preoperative care. The clinical examination showed an 11-months-old boy with dysmorphic facial features including ocular hypertelorism, triangular-shaped face, down slanting eyes, lot-set ears and wide-based, depressed nose; poor weight gain (PI=0.84). A loud midsystolic murmur (Grade IV/V) was present at the pulmonic listening post, the second left intercostal space. The laboratory panel revealed a slightly elevated NT-proBNP with a normal renal and liver function. Electrocardiography highlighted sinus rhythm with right ventricular hypertrophy. Echocardiography pointed out a severe pulmonary valvular and supravalvular stenosis and a right ventricular hypertrophy.

Results: During the admission, the MLPA (Multiplex Ligation-dependent Probe Amplification) assay was performed and confirmed the suspicion of Noonan syndrome. The patient was transferred to the Cardiovascular Surgery Clinic for the treatment of the pulmonary valvular stenosis.

Conclusions: All in all, we would like to highlight the importance of providing an early diagnosis and treatment for genetic disorders like Noonan syndrome, due to the heterogeneous spectrum of associated congenital malformations.

Keywords: Noonan syndrome, pulmonary valve stenosis

A RARE COMPLICATION IN AN INFANT WITH KAWASAKI DISEASE

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Background: Kawasaki disease represents an acute, self-limiting necrotizing vasculitis. This condition primarily affects infants between 6 months to 2 years. The clinical manifestations include prolonged unexplained fever, conjunctivitis, desquamative rash, oropharyngeal mucositis, erythema of the distal extremities and cervical lymphadenopathy. A relatively common complication of Kawasaki disease is coronary aneurysms which can lead to arrhythmias or myocardial infarction.

Objective: Our primary objective is to emphasize the various clinical manifestations which occur due to Kawasaki disease. We report a 4-months-old infant who presented with high fever, drowsiness, right facial nerve palsy, bilateral conjunctivitis without exudate and strawberry tongue.

Material and methods: The physical examination revealed a 10-day episode of prolonged fever (39°C) unresponsive to antipyretics; strawberry tongue and cracking lips; ptosis and drooping corner of the mouth on the right side which suggested a right-sided facial nerve palsy. The laboratory panel revealed leukocytosis with neutrophilia, thrombocytosis, elevated CRP (139 mg/l), ESR (65 mm/h) and NT-proBNP (1130 pg/ml). The echocardiography showed a normal left ventricular function (FE=64%), a large aneurysm of the left main coronary artery (8.5 mm; Z-score 11.62) and a medium aneurysm on the right main coronary artery (5.1 mm; Z-score 6.97).

Results: Based on all of these findings, the patient was diagnosed with an incomplete Kawasaki disease and immediately started the treatment with intravenous immunoglobulin and acetylsalicylic acid. The fever and the facial nerve palsy ameliorated within 2 days after starting the therapy. After all the inflammatory markers improved to normal, the patient was discharged with the recommendation to come back in 6 weeks for another echocardiography.

Conclusions: All things considered, neurologic complications secondary to Kawasaki disease are extremely rare, making the diagnosis more challenging. Moreover, a delayed diagnosis in atypical cases such as this one has a higher risk of coronary aneurysms.

Keywords: Kawasaki, coronary aneurysm, nerve palsy

BIDIRECTIONAL GLENN PROCEDURE IN A 10-MONTH-OLD GIRL WITH COMPLETE ATRIOVENTRICULAR CANAL RASTELLI TYPE B

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Background: Complete atrioventricular canal (CAVC) describes a severe congenital cardiac malformation (CCM) characterized by a large septal defect. In CAVC the two atria connect to the ventricles via a common atrioventricular valve. CAVC accounts for approximately 3% of CCMs. Both genders are equally affected. In Rastelli type B (RTB), the atrioventricular valve is attached to an abnormal papillary muscle in the right ventricle. It is the rarest of the three forms, accounting for approximately 3%.

Objective: This paper aims to explore the case of a 10-month-old girl with CAVC RTB, Ross cardiac insufficiency type 4 (RCIT4), ostium secundum, persistent left superior vena cava (PLSVC) and suspicion of Holt-Oram syndrome.

Material and methods: The patient was born via caesarean section at week 40, weighing 3500 grams. At 9-months of life, the patient was diagnosed with secondary pulmonary hypertension, grade 1 atrioventricular block, latent hypokalaemia, hyponatremia, impaired motor development as well as the aforementioned conditions. Echography revealed a normal aortic valve, a large single atrioventricular valve, slight dilation of the pulmonary artery post banding procedure performed at 2-months of life, a large ventricular septal defect and mild atrioventricular valve regurgitation. At this time, the patient also commenced chronic treatment with Bisoprolol, Spironolactone, Lisinopril.

Results: At 2-months of life, intraluminal banding of the pulmonary artery was performed 1 centimetre above the pulmonary valve using a fenestrated GoreTex patch. At 10-months of life, Bidirectional Glenn procedure was performed to achieve cavo-pulmonary anastomosis.

Conclusions: CAVC RTB in combination with RCIT4 and PLSVC is extremely rare. Patients must undergo surgical intervention in an attempt to correct electrolytic imbalances and low peripheral oxygen saturations. The surgery may also offer the patient a higher quality of life. Pharmacotherapy and frequent medical check-ups should also be included in the treatment regimen.

Keywords: Complete Atrioventricular Canal, Rastelli Type B, Persistent Left Superior Vena Cava, Paediatric Cardiovascular Surgery, Congenital Cardiac Malformation

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NEW SURGICAL METHODS TO PREVENT LATE COMPLICATIONS OF COMPLETE REPAIR OF FALLOT TETRALOGY

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Background: Tetralogy of Fallot is a very common cyanogenic heart malformation and it accounts for 7–10% of all congenital heart abnormalities. After the description published by Étienne-Louis Arthur Fallot, in 1888, as “La maladie bleue” it was found an association between pulmonary artery stenosis, right ventricular hypertrophy, communication between the two ventricles with a right-left shunt, and aortic dextroposition, which leads to a decrease in the amount of oxygenated blood that reaches the systemic level.

Objective: The objective of our presentation is to highlight the late possible complications of a total repair of the Fallot tetralogy and to describe new surgical methods of treatment that lead to an increase in the survival rate in adulthood.

Material and methods: This case presentation follows a male infant aged one year and five months diagnosed from the newborn period with abdominal situs inversus, dextrocardia, right ventricle with double exit path type Fallot with pulmonary ring hypoplasia, pulmonary artery trunk with filiform Doppler flow, with confluent pulmonary branches well developed, ligated arterial canal, small atrial septal defect with minimal left-right shunt. He has benefited from surgery which consisted of modified systemic-pulmonary shunt, persistent arterial canal ligation and aorto-pulmonary collateral ligation.

Results: The case was discussed in the cardio-surgical colloquium, being accepted for surgical treatment consisting of total secondary correction with transannular patch, infundibular resection and ligation of the systemic-pulmonary shunt.

Conclusions: The improved cardiac surgery techniques lead to a minimization of complications that may occur late, thus increasing the number of patients surviving to adulthood.

Keywords: Cyanogenic Heart Malformation, Abdominal Situs Inversus, Dextrocardia, Cardiac Surgery Techniques.

AN INTERESTING ASSOCIATION OF SEPTAL DEFECT AND PROGRESSIVE CONGENITAL STENOSIS

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Background: Subvalvular aortic stenosis (SAS) is a rare pathology among children, affecting 8 out of 10,000 children, the ratio between males and females being 2:1. In 60% of cases, SAS is present in children known to have pre-existing heart malformations, such as a patent ductus arteriosus, ventricular septal defect, or aortic coarctation. The most common lesion is represented by a thin membrane, but it also may be a fibromuscular ridge or even an accessory mitral valve tissue. There are also some pathologies that could make it difficult to make a correct differential diagnosis, such as bicuspid aortic valve.

Objective: The aim of our presentation is to highlight the importance of modern cardiac examination methods for correct diagnosis.

Material and methods: This case presentation follows a 7-year-old patient diagnosed with grade IV congestive heart failure. This patient is known to have severe aortic subvalvular stenosis and post-surgical correction (2015) - closure of the ventricular septal defect with a patch of bovine pericardium. Clinical and paraclinical investigations reveal dilatation of the aortic root and ascending aorta, apparently bicuspid aortic valve, moderate mitral regurgitation due to dysplastic mitral valve, and concentric hypertrophy of the left ventricle.

Results: At 7 years after successfully correction of ventricular septal defect, without residual shunt, surgery to repair subvalvular aortic stenosis is necessary as the patient has a narrowing of the left ventricular ejection tract, approximately 8.9 mm below the aortic valve, with a turbulent aortic subvalvular flow with a maximum gradient of 77 mmHg.

Conclusions: New cardiac assessment techniques lead to an accurate diagnosis and a precise approach of the therapeutic conduct.

Keywords: Subvalvular Aortic Stenosis, Ventricular Septal Defect, Correct Differential Diagnosis, Modern Cardiac Examination Methods.

NURSE INVOLVEMENT IN THE CARE OF PATIENTS WITH HEART FAILURE AND CARDIAC RESYNCHRONIZATION THERAPY

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Background: Beyond optimal medical therapy, the treatment of patients with heart failure (HF) with severely impaired systolic function, dilated cardiomyopathy (DCM) and complete left bundle branch block (LBBB) includes cardiac resynchronization therapy (CRT).

Aims: The purpose of CRT is to correct the contraction dyssynchrony caused by the LBBB and promote the reverse remodeling of the left ventricle (LV).

Method: Mr. C.C., 47 years old, presented for dyspnea at minimum exertion, despite being on optimal medical therapy for HF. The electrocardiogram showed LBBB with a QRS width of 200 msec. Echocardiographic examination revealed severely impaired LV systolic function, significant dyssynchrony, and severe functional mitral regurgitation. The patient received a pacemaker for CRT.

Results: The clinical status of the patient improved immediately after the procedure. On the ECG, the morphology of the QRS complex was consistent with earlier depolarization of the LV. Echocardiography showed a mild improvement in global LV function, moderatemitral regurgitation, and a more synchronous contraction of the LV walls. The patient was followed up at 6 weeks, and 6 months respectively. One year after CRT, the patient's effort capacity and LV systolic function were improved.

Conclusion: Nurses are involved in the care of HF patients with CRT during the implant procedure, as members of the electrophysiology team, and after the procedure. After the procedure, patients are commonly immobilized for 6 hours. The nurse will immediately alert the attending physician if the patient becomes hemodynamically unstable, has chest pain or dyspnea, or if hemorrhage or inflammation signs occur around the incision. Three doses of antibiotics (usually beta-lactams) are administered intravenously every 12 hours in order to avoid device-related infection. A chest X-ray is performed the next day to evaluate lead integrity and position. The incision area is dressed with sterile gauzeevery 2-3 days until the wound is completely healed.

Keywords: heart failure, pacemaker, cardiac resynchronization therapy

AN UNEXPECTED CAUSE OF RETINAL ARTERY OCCLUSION – CLINICAL CASE

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Background: Left ventricular noncompaction is a rare cardiomyopathy, characterized by a double stratification of the myocardium, with excessive left ventricle trabeculae. The pathogenic mechanism of this pathology is insufficiently known but is considered that occurs because of the arrest of the compaction process of ventricular myocardium during embryogenesis.

Objective: We present the case of a 69-year-old patient, who is attending to a cardiological consultation, under the guidance of an ophthalmologist, trying to find the cause of retinal artery occlusion, suffered 6 months ago, also experiencing palpitations and fatigue.

Material and methods: The ECG examination showed sinus rhythm, with electric axis deflected to the left and major left bundle branch block (LBBB) with terminal phase changes. Echocardiography shows dilated left ventricle (LV), moderate mitral regurgitation, global hypokinesia, more pronounced at the apex of LV, anterolateral and inferolateral LV wall, apex asynchrony in LBBB context, LVEF 28% and noncompaction aspect at the level of the apex, the anterolateral and the inferolateral LV walls. Therefore, investigations were initiated to detect the cause of the kinetics disorders and a CT coronary angiogram was performed, which did not reveal any significant changes in coronary arteries. Then, it was indicated to perform an MRI which indicated moderate noncompaction of LV about 35%, predominantly apical, without areas of myocardial hypoperfusion, without areas of fatty load or myocardial fibrosis.

Results: Following echocardiography, the diagnosis of LV noncompaction was established, supported by the existence of five Jenni criteria, MRI confirming as well the diagnosis.

Conclusions: This pathology is often complicated by ventricular dysfunction, arrhythmias and thromboembolic events, which is why anticoagulant therapy is indicated, requiring an annual echocardiography and Holter ECG/24h evaluation for the detection of potentially malignant ventricular arrhythmias. Also, family screening is required.

Keywords: Retinal artery occlusion, left ventricular noncompaction

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AORTIC STENOSIS LOW FLOW LOW GRADIENT, PRESERVED EJECTION FRACTION – DIFFICULT OR SIMPLY TO RESOLVE? –CASE REPORT

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Background: The aortic stenosis is a valvular disease representing the narrowing of its valvular area and automatically the reduction of the blood flow in the body.

Objective: We present the case of 75-year-old-man known with hypertension, aortic stenosis (AS), mitral regurgitation, atrial fibrillation and COPD who has been admitted to Second Medical Clinic Emergency County Hospital of Târgu-Mureș.

Material and methods: On admission day the ECG revealed atrial fibrillation and due to electrical cardioversion, the ECG changed to sinus rhythm. After the restoration of the sinus rhythm, the echocardiography showed calcified aortic stenosis. On clinical examination, patient presented barrel chest and harsh systolic murmur best heard on the aortic area. The echocardiography revealed an aortic valve area of 0.8 cm^2, low mean gradient (22mmHG), low flow with the stroke volume index lower than 35ml/m^2 and a left ventricle ejection fraction (EF) of 55%. Diagnosis of severe aortic stenosis is challenging and requires careful exclusion of measurement errors, so, CT (computed tomography) assessment of the degree of valve calcification provided important additional information taking into account the emphysematous thorax.

Results: The CT revealed a severe calcification on aortic valve with calcium scoring = 1959 Agatston units. Considering the echocardiography and CT, the diagnosis is severe AS, low flow, low gradient with preserved EF.

Conclusions: Such findings are clinically relevant because this condition may often be misdiagnosed, which leads to an inappropriate delay of aortic valve replacement surgery. In clinical application, it is quite difficult to confirm the severity of AS for a patient with low gradient severe AS and preserved EF. In order to exclude other etiologies of clinical manifestations it must be performed a refined history-taking, physical examination, 2D and Doppler echocardiography along with other investigations such as aortic valve CT calcium scoring.

Keywords: aortic stenosis, preserved ejection fraction, aortic valve area, low gradient, low flow

THE MANAGEMENT OF A NEWBORN WITH TETRALOGY OF FALLOT

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Background: Tetralogy of Fallot is one of the most common congenital cardiac malformations, a combination of defects that leads to altered pulmonary blood flow and reduced oxygen levels in the blood. In Romania, it is estimated that 70-80 patients suffering from tetralogy of Fallot are born annually.

Objective: The following case shall seek to emphasize the rigorous care of a term infant born with a congenital heart defect.

Material and methods: We present the case of a female patient born in September 2021 at a private maternity with complex congenital heart malformation with ductal-dependent pulmonary circulation, tetralogy of Fallot extreme form, patent ductus arteriosus, ostium secundum atrial septal defect, right aortic arch. Moreover, the birth was c-section, with intraoperative ruptured membranes, greenish amniotic fluid and postpartum adjustment with generalized cyanosis. She is transferred to NICU with 77-84% SpO2, systolic murmur grade III/6 over the entire cardiac area. She initially receives treatment with prostaglandin E1 0.05 µg/kg/min, later on the dose is reduced to 0.02 µg/kg/min. At 21 days old, the patient is transferred to the level III neonatal intensive care unit of Târgu-Mureș for further investigations and specialist treatment. From then, she received 0.02 µg/kg/min prostaglandin E1 maintaining the patent ductus arteriosus permeable. At 26 days old, furosemide is given intravenous for lower limb edema and positive fluid balance. The prostaglandin E1 dose is reduced to 0.015 µg/kg/min due to echocardiographic evaluations. At 28 days old, neonatal anemia is corrected by administration of isogroup, iso-Rh erythrocyte mass, without transfusion incidents. The evolution was favorable under the treatment administered.

Results: The patient is transferred to the cardiovascular surgery department with a satisfactory general condition, normothermic, normal colored skin, cardiorespiratory balanced, SpO2 80-88%.

Conclusions: The treatment strategies currently used for tetralogy of Fallot, including both clinical and surgical, result in long excellent long-term survival.

Keywords: tetralogy of Fallot, congenital heart disease

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