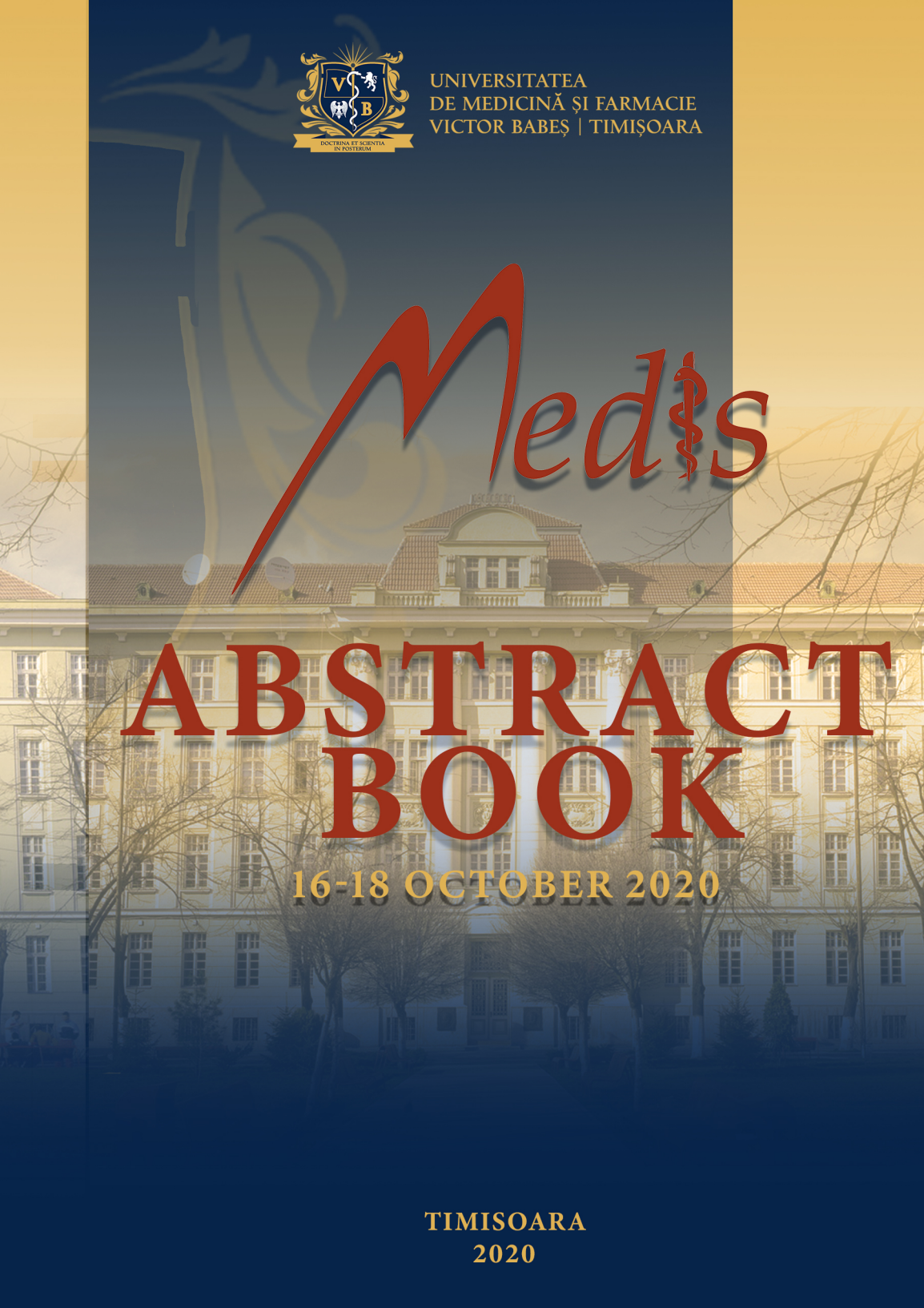
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Medis
ABSTRACT BOOK
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2020

ABSTRACT BOOK

The 23rd International Congress for Students and Young Doctors

16th – 18th October 2020

Organised by

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Societatea Studenților în Medicină Timișoara

Hosted by

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Table of Contents

Dear colleagues and guests,

With gratitude towards the contributors and the participants, the Medical Students' Society Timișoara, local Organizing Committee and The University of Medicine and Pharmacy "Victor Babeș" Timișoara are delighted to invite you to the 23rd edition of the Congress for Medical Students and Young Doctors – Medis which will be held from the 16thto the 18th of October 2020, *online*, due to the epidemiological development which prevents the physical presence of Participants at the Workshops and Conferences that we had previously prepared.

In a sea of COVID-19 alerts, it is difficult to think about what information we should be providing to our Participants without creating further panic and confusion.

As future healthcare professionals we have a duty to prevent the transmission of this pandemic and to stay informed on its evolution in order to keep both ourselves and the people we interact with safe. We consider that the adopted measures are correct and we sympathize with those struggling to prevent and treat this disease.

The fundamental and clinical scientific research is part of the medical practitioner's activity. Very often, many of the recent professors began their career through

attending this type of conferences, where with original papers proved their abilities and afterwards their professional competence. The credibility of a good doctor consists of both the theoretical and practical knowledge, but on the other hand consists of the ability to bring useful information to their colleagues.

In the last 150 years, the history of medicine has proved us that many important research findings were discovered by students. We could mention here Paul Langerhans, Victor Babes or Paul Ehrlich, in order to outline the previous affirmation. Maybe not all of us will reach this level, but each of us contributes with a smaller or bigger part to the entire "body" known to all of us as medical science.

We are sure that this conference will bring you not only knowledge, but also networking in terms of learning and research. Seize the opportunity of socializing with other young health professionals from all over the world and get the most out of the feeling of presenting your work in a competitive environment!

We are looking forward to greeting you at Medis 2020!

Best regards,

The Organising Committee

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Posters

1. **BILATERAL LEYDIG CELL HYPERPLASIA IN A POSTMENOPAUSAL WOMAN: A CASE REPORT**
2. **CLINICAL CASE AND SIMULATION BASED - EVALUATION, IDEAL ASSESMENT FOR MEDICAL STUDENTS?**
3. **THE STUDY OF URINARY PODOCYTES IN DIABETIC NEPHROPATHY**
4. **MEMBRANOUS GLOMERULONEPHRITIS –WHICH SIDE ARE YOU ON?**
5. **GIANT OVARIAN GRANULOSA CELL TUMOR**
6. **DIAGNOSIS OF HYPOGLYCEMIA IN 71 YEARS-OLD PATIENT: A CASE REPORT**
7. **RESPONSE OF ANAL CARCINOMA TREATED WITH RADIOTHERAPY USING VMAT: A CASE REPORT**
8. **CASE REPORT: CORAL-SHAPED RENAL CALCULI IN A FEMALE PATIENT WITH DUPLICATE URETERS**
9. **RETROSPECTIVE ANALYSIS OF BREAST CANCER IN MEN: A REFERENCE CENTER BASED STUDY**
10. **TRAUMATIZED JUVENILE XANTHOGRANULOMA: A PROBLEMATIC CASE IN PEDIATRIC PATHOLOGY**
11. **JEJUNAL DIEULAFOY'S LESION: A CHALLENGE IN THE TREATMENT OF UPPER GASTRO-INTESTINAL BLEEDING**
12. **EMERGENCY TRACHEOSTOMY: A CASE REPORT**
13. **THE PREVALENCE OF DEPRESSION SYMPTOMS AMONG ROMANIAN EMIGRANTS**
14. **BRONCHO-PULMONARY CANCER - PECULIAR ONSET AND DIAGNOSIS ASPECTS**
15. **RISK FACTORS IN INFANT PNEUMONIA**

16. **SURGICAL TREATMENT OF SQUAMOUS CELL CARCINOMA: THE EQUILIBRIUM BETWEEN AESTHETIC AND FUNCTIONAL**
17. **A LOOK AT THE INCIDENCE OF ASTROCYTOMAS: A REFERENCE CENTER BASED STUDY.**
18. **ANALYZING TISSUE REACTION TO CRANIAL WINDOW IMPLANTATION WITH OPTICAL COHERENCE TOMOGRAPHY**

1. BILATERAL LEYDIG CELL HYPERPLASIA IN A POSTMENOPAUSAL WOMAN: A CASE REPORT

Rut MUREȘAN[1], Diana MICLUȚA[1], Ioana MIHAI[2], Anca MUREȘAN[2, 3], Marioara CORNIANU[2,3] , Alis DEMA[2,3]

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INTRODUCTION: Ovarian Leydig cell hyperplasia is a rare lesion, with only eight previously reported cases in the literature [1]. It can occur as a result of elevated hCG or LH levels during pregnancy, after menopause, following administration of chorionic gonadotropin or in the presence of choriocarcinoma. Women often present hyperandrogenism and hirsutism. Our aim is to present a rare case of bilateral hillus Leydig cell hyperplasia in a postmenopausal woman with no clinical endocrine disturbances.

MATERIALS AND METHODS: A 76-years-old woman, clinically diagnosed with multiple leiomyomas of the uterus, underwent total hysterectomy with bilateral salpingo-oophorectomy. The surgical specimen was sent to the Morphopathology Department of the University of Medicine and Pharmacy "Victor Babes" for grossing and microscopic interpretation.

On gross examination, the uterine wall presented multiple well-circumscribed nodules with an increased consistency, the largest one measuring 5 cm in diameter; in the endometrial cavity, a polyp of 3x1.5 cm was observed. The left ovary measured approximately 3,5x2,5x1,5 cm, presented a solid, tan cut surface, and in the proximal paraovarian adipose tissue, two brown, well circumscribed masses were identified, measuring 0,5 cm and 0,6 cm, respectively. The right ovary was 3x2x1 cm; the cut surface had a tan, solid aspect with a few white and light-yellow nodules.

The lesions were examined using hematoxylin and eosin slides, as well as immunohistochemical techniques.

RESULTS: Microscopic evaluation revealed uterine leiomyomas and an endometrial atrophic polyp. Furthermore**,** histologic examination of the

mesovarium of the left ovary, showed two large nodules composed of polygonal cells, with granular eosinophilic cytoplasm and central, vesicular nuclei with evident nucleoli. Several similar cells were described in isolated nests or small clusters within the stroma of both ovaries as well as in the right mesovarium. No significant mitotic activity and no evidence of a concomitant neoplastic stromal component was observed. Lipochrome pigment was present. Masson trichrome stain was used to detect eosinophilic rod-shaped Reinke crystals. The Leydig cells displayed strong citoplasmatic immunohistochemical reaction for Inhibin A and were negative for AE1/AE3. A diagnosis of bilateral Leydig cell hyperplasia was made.

CONCLUSION: Leydig cell hyperplasia is a rare and challenging lesion to diagnose that needs to be differentiated from other androgen producing ovarian tumors with more aggressive biological behavior. Moreover, adequate tissue sampling remains one of the best tools in pathological diagnosis.

KEYWORDS: Leydig cell hyperplasia, ovary, Inhibin A, Reinke crystals.

2. CLINICAL CASE AND SIMULATION BASED - EVALUATION, IDEAL ASSESMENT FOR MEDICAL STUDENTS?

Dumitru ȘUTOI[1,2], Romeo Theodor STOIANOV [1], Șerban Andrei POPA[1], Codrin Dragoș TOCUȚ, Cosmin TREBUIAN[2], Cosmin LIBRIMIR[2], Iulia VISI, Ovidiu Alexandru MEDERLE [2]

1 Clinical County Hospital „Pius Brînzeu" Timișoara
2 University of Medicine and Pharmacy "Victor Babeș" Timișoara

We all know the importance of using according evaluation to asses straight thinking of students. The most important universities of medicine are using assessments based on clinical cases and medical simulation.

Despite of the prestige and performance of University of Medicine and Pharmacy „Victor Babeș" from Timișoara, many disciplines are assessing students using methods that evaluate the storage capacity more than clinical thinking.

The level of professional preparation of medical students who graduated the faculty of medicine from Western Europe and America is higher than Eastern Europe. One of the reasons is modern assessment based on clinical cases and medical simulation.

Because of this fact, we designed a retrospective monocentric study which include students who took the graduation exam at Emergency Medicine discipline in last three semesters, since we implemented clinical case and simulation-based assessment.

Firstly, we wish to discover the advantages and disadvantages of these methods in the balance of classic assessment methods. Secondly, we want to compare marks obtained in the last three semesters with the results that the students have obtained before the changing mentioned above.

Not least, an important part of our study is to quantify the level of motivation and satisfaction, the student's opinion of these methods and the impact of clinical cases and medical simulant assessment after the

Emergency medicine graduation in professional development regardless the specialty that they want to follow.

KEYWORDS: medical education, clinical case assessment, e-learning, simulation-based medical education, modern assessment.

3. THE STUDY OF URINARY PODOCYTES IN DIABETIC NEPHROPATHY

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2 West University Timisoara

AIM: Studying the podocyte biology improves understanding of cells involved in the renal filtration structure, function and mechanisms. Urinary podocytes quantification and podocytes markers may be a non-invasive method for assessing the renal damage severity. The study aim was to develop urinary podocyte culture in order to quantify them and CD2AP markers as a renal injury indicator in diabetic disease.

METHODS: The biological material used for the in-vitro study was represented by healthy volunteers' urine (5) and diabetic patients with microalbuminuria and macroalbuminuria (16). The first morning urine collected was centrifuged and cells were obtained from the pellet. The cells were seeded in specific culture medium. Cell viability was tested with MTT test. The podocytes identification was carried out by immunofluorescence. The CD2AP gene expression was analyzed by RT-PCR.

RESULTS: Podocyte cells can be detected in healthy people's urine as a result of normal exfoliation. Podocytes are mature epithelial cells with a complex cellular organization consisting of a cell body, major processes and foot process. The podocituria was significantly lower in healthy volunteers (1/5) and diabetic patients with microalbuminuria (3/8) compared to patients with macroalbuminuria (7/8). CD2AP expression was present in all cell lines, being correlated with the renal injury severity.

CONCLUSIONS: We have demonstrated that human podocytes express the CD2AP marker. Quantification of these cells or CD2AP can be used to assess the kidney damage severity.

4. MEMBRANOUS GLOMERULONEPHRITIS – WHICH SIDE ARE YOU ON?

Author: Dagau Anca
Scientific Coordinators: Aisit.univ.dr. Gaita Laura

University of Medicine and Farmacy "Victor-Babeș" Timișoara

INTRODUCTION/BACKGROUND: Membranous glomerulonephropathy remains one of the most common causes of adult onset nephrotic syndrome in the world. In industrialized countries, the most common type is the idiopathic membranous glomerulonephropathy. Nowadays, the treatment frequently used for an autoimmune disease is immunosuppression or corticotherapy. It is known that these agents are associated with many adverse effects, while also having a negative impact on the pancreatic tissue. Herein I detail the evolution of a 35 years-old male patient with primary chronic membranous glomerulonephritis, treated with immunosuppressive medication, more specifically with cyclosporine, presenting at the emergency department with the following symptoms: polyuria, polydipsia, xerostomia and a 10 kg weight loss in the past two weeks. Due to the blood tests that have shown hyperglycaemia and ketone bodies in the urine, the patient was admitted to the diabetes department.

MATERIALS AND METHODS: Fasting plasma glucose, haemoglobin A1c, lipid profile, uric acid, serum creatinine, glomerular filtration rate, albumin and multiple urine measurements were performed using standardized methods. Furthermore, the BMI, blood pressure and the ankle-brachial index were also measured together with a fundoscopy and a nephrological examination.

RESULTS: The clinical examination and the other tests have shown dehydration, secondary hypertension (due to chronic kidney disease) and nephrotic syndrome complications such as hypercholesterolemia, hyperuricemia and hypoalbuminemia. The patient also had ketoacidosis, documented by ketone bodies from urine and hyperglycaemia (> 500

mg/dl). The next step was to determine the type of diabetes mellitus, therefore a serum C peptide was evaluated with results of low levels.

The following question that made the case noteworthy - is it a type 1 diabetes associated with membranous glomerulonephritis or is it a secondary diabetes due to treatment with cyclosporine?

To find the answer, I compared the diagnosis criteria of type 1 diabetes against the secondary insulinopenic diabetes. The arguments in favour of type 1 diabetes are: the association with another autoimmune disease, the acute onset with ketoacidosis, the low C peptide level and the important weigh loss in a short period of time.

In spite of the arguments presented above, the cyclosporine treatment may have a destructive effect on the islet cells of the pancreas and determine a form of insulinopenic diabetes.

CONCLUSION: Autoimmune diseases, for example glomerulonephritis, are becoming more and more frequent worldwide and the known treatment can lead to multiple severe side effects. Thus, when a patient has an autoimmune condition, we have to ask ourselves if another new onset disease is caused by the pharmacological agents or is just an accidental comorbidity. The answer will help us in choosing the correct approach for the patient.

KEYWORDS: autoimmune disease, glomerulonephritis, diabetes mellitus.

5. GIANT OVARIAN GRANULOSA CELL TUMOR

Patricia Mihaela STANCU[1], Lecturer Dr. Vlad Alexandru GÂTA[1 2], Professor Dr. Patriciu Andrei ACHIMAŞ-CADARIU[1 2]

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[2] "Prof.Dr.Ion Chiricuţa" Institute of Oncology, Cluj-Napoca, Romania

BACKGROUND: Granulosa cell tumor (GCT) is a rare type of ovarian tumors which derives from sex-cord stromal cells. It is a borderline tumor, accompanied by hyperestrogenism features and symptoms. It has a favorable prognosis, but a high rate of recurrence. Huge ovarian tumors are rarely seen nowadays in the surgical practice, but they present many challenges to anesthesiologists and surgeons.

MATERIAL AND METHODS: A 60 years old female patient was admitted for a giant abdominal distension which gradually increased in size over the past 7 years. It was accompanied by abdominal pain, lack of appetite, constipation, inability to move and acute respiratory insufficiency.

Biologically, hypochromic microcytic anemia (Hb=6.9g/dl) was found, along with elevated levels of CA-125, which raised the suspicion of ovarian tumor. A CT examination could not be performed due to the giant tumor which enabled the patient to lie down.

After a multidisciplinary consultation, the patient underwent surgery. Preoperatively, units of packed red blood cells were arranged. The anesthesia was performed in left lateral position due to the respiratory distress. The surgery was performed in reverse Tendelenburg position in order to decompress the lungs. A median infraombilical incision was made and a hemorrhagic tumor was exposed. The histopathological exam revealed the diagnosis of granulosa cell tumor. The surgical approach was the resection of the tumor, bilateral salpingo-oophorectomy, total hysterectomy, infracolic omentectomy and abdominal reconstruction. Suspect adenopathies were not found. After the resection of the tumor, the patient suffered a hypotensive shock due to the decompression of the inferior vena cava and the hemorrhage. It was managed by receiving 10 units of packed red blood cells using Level 1 Infuser and noradrenaline support. The patient was transferred to the ICU for observation. The patient recovery went well, being discharged after 10 days.

RESULTS: The histopathological examination revealed an adult granulosa cell tumor of the left ovary T1aNxL0V0, 39x38x9cm with a weight of 38 kilograms, intraepithelial endometrial neoplasia and uterine leiomyoma. Chemotherapy was not recommended. A mammography was also performed to evaluate a potential breast neoplasm, but the result was negative. The patient is under supervision for any potential recurrence by overseeing the levels of inhibin.

CONCLUSION: Granulosa cell tumor it is a borderline tumor, with a favorable prognosis. The treatment is surgery. Due to the hyperestrogenism that it is induced, every patient diagnosed with this type of tumor must be checked for potential breast or endometrial neoplasm.

Giant tumors need a very careful preoperative evaluation, maintenance of intraoperative hemodynamic and fluid management as they can present life threatening cardiac and pulmonary complications that anesthesiologists should be aware of. The complexity of the surgery in these cases is mainly attributed to the size of the mass and not to its pathology.

KEYWORDS: ovary, granulosa cell tumor, borderline tumor, giant, management

6. DIAGNOSIS OF HYPOGLYCEMIA IN 71 YEARS-OLD PATIENT: A CASE REPORT

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1. University of Medicine and Farmacy "Victor-Babeș" Timișoara
2. County Emergency Clinical Hospital „Pius Brînzeu" / Timișoara

INTRODUCTION/BACKGROUND: The most common cause of endogenous hypoglycemia is the insulinoma, a type of endocrine tumor of the pancreas that can occur in 3-10 individuals per million (in the general population) per year. Insulinomas can develop at any age and have an equal gender distribution.

More than 90% of insulinomas are benign and usually small, well-encapsulated, solitary tumors which secrete insulin at an intermittent rate. This characteristic can explain the episodic nature of the hypoglycemic attacks.

The diagnosis of insulinoma is often derived from the impossibility of highlighting the cause of repeated hypoglycemia in an apparently healthy patient, whence the need of a more detailed approach and of analyzing thoroughly every aspect of these cases.

In order to support this idea, I describe the case of a 71 years-old female that presents to the emergency department with the following symptoms: fatigability, asthenia, blurred vision and dizziness. These have appeared around one week before the hospital presentation. Measurements of blood glucose levels have shown hypoglycemia (< 50 mg/dl), therefore she was admitted to the diabetes department. During her hospitalization, the patient has presented multiple hypoglycemic episodes. She received infusions with glucose solutions (33% and 10%) for the maintenance of normal glucose levels.

MATERIALS AND METHODS: Clinical and serological tests included: BMI, blood pressure, glycemia, HbA1c, insulin levels, complete blood count, coagulation tests, serum creatinine, urea, liver enzymes, lipid profile, sodium, potassium and urinalysis.

Also, imaging tests such as an abdominal ultrasound, abdominal CT-Scan and CT angiography were required.

RESULTS: The blood test results, imaging findings and patient presentation (with hypoglycemia symptoms such as fatigability, asthenia, blurred vision and dizziness) led to a diagnosis of insulinoma. The patient was sent to the surgery department where laparotomy and duodenopancreatectomy, also known as Whipple's procedure, was chosen as a treatment.

The patient went under observation in intensive care unit after the procedure. She was stable at first, but due to a pulmonary embolism confirmed through the CT angiography, her condition worsened. The physicians treated the emergency. Heparin was given, and the patient recovered in the next 4 days. The post-surgical evolution was favorable, and she recovered and was sent home afebrile and stable.

CONCLUSION: Hypoglycemia in elderly patients may have multiple possible causes, hence physicians should have in mind the occurrence of insulinomas among the general population. To practitioners, it still remains a challenge to diagnose this condition, therefore any hypoglycemia case should be properly investigated and managed.

KEYWORDS: insulinoma, Whipple's procedure, hypoglycemia, tumor, diagnosis, management, surgery.

7. RESPONSE OF ANAL CARCINOMA TREATED WITH RADIOTHERAPY USING VMAT: A CASE REPORT

MITROI Florida[1,2,3], Raluca STAHIESCU[2]

1. SCMUT
2. ONCOHELP
3. University of Medicine and Farmacy "Victor-Babeș" Timișoara

INTRODUCTION: Anal carcinoma was considered to be a rare type of tumor, but the incidence rate is increasing due to the risks factors. These include human papillomavirus infection, a history of cervical, vulvar or vaginal cancer, HIV or even smoking. The tumor of the anal canal is more common in women and usually poorly differentiated. Male sex, positive lymph nodes and tumor size greater than 5 cm are independently prognostics for worse overall survival. Chemoradiation is the standard of care for anal squamous cell carcinoma. Considering that it has the potential to be a curable disease, the need to decrease long term toxicity is an important focus. For early stages without nodal involvement brachytherapy is the best option of treatment available. Acute and late toxicities are lower, and with very good local response.

MATERIAL AND METHODS: A 63 years old female patient experienced pelvic intense pain. Her medical history includes a surgery 3 years ago, a subtotal hysterectomy with a histopathological report of in situ squamous cell carcinoma with squamous metaplasia in the endocervical glandular epithelia. Clinically she presented an infiltrative lesion of 6/5cm, extended perianal on the right buttock. At the rectal exam the tumor infiltrates the whole length of the anal canal (4 cm). The colonoscopy confirmed the presence of a tumor limited to the anal canal. A biopsy was performed with the histopathological report of a squamous non-keratinizing grad II carcinoma. She also had a pelvic MRI which confirmed the tumor already assessed and showed no involvement of the lymph nodes. After gathering all the data, the diagnostic was anal carcinoma T3N0M0 stage II B. The multidisciplinary tumor board proposed the beginning of curative radiochemotherapy.

RESULTS: The patient was prescribed a dose of 56 Gy on the primary tumor and a dose of 50.4 Gy to the nodal aria, using the volumetric modulated arc therapy (VMAT). Concomitantly she received one cycle of Cisplatin 40mg/m^2 with consecutive renal toxicity (high level of creatinine), which did not permit the administration of another cycle. A clinical evaluation was performed in the middle of the treatment, which revealed more than 50% downsize of the tumor.

CONCLUSION: Using intensity-modulated radiation therapy (IMRT)/ volumetric modulated arc therapy (VMAT) for anal carcinoma is an efficient treatment with high quality response. It offers a better local control, with well manageable acute toxicities. While avoiding the trauma the surgery would inflict with the presence of a permanent colostomy, the patient's quality of life is preserved.

KEYWORDS: anal carcinoma, squamous cell carcinoma, IMRT/VMAT, radiochemotherapy.

8. CASE REPORT: CORAL-SHAPED RENAL CALCULI IN A FEMALE PATIENT WITH DUPLICATE URETERS

Patricia Alexandra MEDELEAN, Alina MICAN
Coordinators: Dr. Adela FERICIAN, Dr. Ovidiu FERICIAN

University of Medicine and Farmacy "Victor-Babeș" Timișoara

INTRODUCTION: Urolithiasis is a problem, which has been affecting humanity for centuries and is relatively common, with reported incidences of up to 12% of the world population during their lifetime. Various studies estimate that 2-3% of all individuals present annually with either a sign or symptom related to urinary tract obstruction secondary to calculus impaction.

N. R, a 63 year old patient, with a history of urological conditions (extracted kidney stones on the 23rd of October 2019) and congenital duplicate ureters on the right kidney, presents in our clinic according to her appointment, in order to undergo investigations and to be given the necessary treatment for coral-shaped kidney stones. Imagistic investigations were conducted, starting with an abdominal ultrasonography, and continuing with an abdominal and pelvic tomography. The CT revealed stones present both in the superior calyceal system, as well as in the renal pelvis, extending to the inferior calyceal group.

MATERIALS AND METHODS: The patient was admitted into the Urology Clinic. Basic investigations were further conducted (EKG, lab tests). After an appropriate preoperative preparation, on the 17th of January 2020 a team of surgeons intervened, performing a right side percutaneous nephrolithotripsy in the superior calyceal group. Because the patient was obese, a supine position was chosen for the intervention. The operation included spinal anesthesia, the introduction of the right side catheter, right retrograde ureteropyelography, the fixation of the nephrostomy tube and JJ catheterization, as well as an 18Ch Foley catheter.

RESULTS: The patient had a favourable evolution while being given the required medicine (antibiotics, anti-inflammatories, and saline solution for perfusion). The diuresis on the Foley catheter was adequate (2500 ml/day), and it was successfully removed the 3rd day post-op, the patient resuming

physiological urination. Through the nephrostomy, a volume of approximately 200 ml of slight hematuria was evacuated. The catheter was removed the day following the surgery. After a week, the patient was discharged in a good general state. She will need to come back for the removal of the double-J catheter within 3 months from the surgery.

CONCLUSIONS: The patient was discharged with an improved health status, with her initial symptoms gone, with no residual stone fragments present in the right kidney, but with a separate non-problematic stone existing in her left one, for which she will need a future intervention. Other than that, the patient has been declared "stone free", having in view that a second intervention was performed on the inferior calyceal system, thus succeeding to remove all the calculi.

In conclusion, the endoscopic treatment is feasible, despite the massive calculi and the anatomical variety of the patient, and can successfully replace the open surgical procedure.

KEYWORDS: Kidney stones, duplicate ureters, nephrolithotripsy

9. RETROSPECTIVE ANALYSIS OF BREAST CANCER IN MEN: A REFERENCE CENTER BASED STUDY

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INTRODUCTION: Breast cancer is one of the rarest cancers found in men, being responsible for <1% of all male cancers, and 0.1% of all male cancer deaths. The small rate of occurrence, represents the main reason behind the lack of scientific knowledge and available date behind this pathology. In order to provide a factual dataset about this pathology, we analyzed cases of breast cancer in men diagnosed in the Pathology Department at the County Emergency Clinical Hospital ''Pius Brinzeu'' Timisoara from 2008 to 2019.

MATERIALS AND METHODS: A retrospective histopathological study was performed, by reviewing a series of medical records for a diagnosis of breast cancer in men, from 2008 to 2019 diagnosed in the Pathology Department at the County Emergency Clinical Hospital ''Pius Brinzeu''. No limit was set for the age of the patient included in the study.

RESULTS: Out of 922 cases of breast cancer (women and men) diagnosed in our study time period, 11 (1.19%) cases were breast cancer in men, All 11 cases were diagnosed after evaluating surgical excisions followed by histopathological and immunohistochemical staining. 11 out of 11 cases were diagnosed as infiltrative carcinoma with 0 cases of preinvasive lesions. The patients were grouped by age, rural/urban residence, clinical diagnosis information, tumour type and stage.

CONCLUSIONS: Breast cancer in men has many similarities to breast carcinoma in women. Most cases are invasive ductal carcinoma with a preponderance of cases in the 6 and 7 decade of life.

KEY WORDS: men, breast cancer, invasive ductal carcinoma

10. TRAUMATIZED JUVENILE XANTHOGRANULOMA: A PROBLEMATIC CASE IN PEDIATRIC PATHOLOGY

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INTRODUCTION: Juvenile xanthogranuloma (JXG) is an infrequent form of non-Langerhans histiocytosis, which predominantly occurs in infancy and childhood [1]. This benign histiocytic lesion is stable or may regress over time [2]. Clinical manifest as single or infrequent multiple cutaneous nodules that are typically located on the head and neck region, rarely on the trunk and extremities [3]. Sometimes are accompanied by synchronous lesions in the deep soft tissues [4]. The aim of our study is to present a case of a male child with a single JXG lesion, without spontaneous regression in time.

MATERIALS AND METHODS: A nine-year-old child presented to Plastic Surgery Department of the Emergency Clinical County Hospital "Pius Brinzeu" Timisoara with a traumatized cutaneous nodular skin lesion on his left temporal region. The lesion was surgically excised and referred to the Pathology Department. For histological evaluation we used routinely HE stained slides.

RESULTS: Grossly, the excised skin-fragment measured 1x0.8x0.3 cm, presenting on cross section a 0.8x0.7 cm solitary white-brown nodular mass. Microscopically, an intradermal proliferation of numerous mononuclear and multinucleated cells was identified, represented by histiocytes, foamy macrophages, Touton-type multinucleated giant cells, in an inflammatory background consisted of lymphocytes, eosinophils and neutrophils; focally microabscesess and suppurative necrosis were seen. The lesion was covered by a partially ulcerated epidermis. Finally, a diagnostic of JXG was made, with associated ulcerative-inflammatory process.

CONCLUSION: We present a rare case of traumatized JXG without time regression. Although this lesion has a benign course, locally excision being curative, the patient needs to be follow-up for other similar lesions, the rare deaths being associated with systemic disease. Moreover, it is important to distinguish it from Langerhans cell histiocytosis and other histiocytic proliferation with a more aggressive biologic behavior.

KEYWORDS: Juvenile Xanthogranuloma, Non-Langerhans cell histiocytosis, histiocytic proliferation, Touton multinucleated giant cells.

11. JEJUNAL DIEULAFOY'S LESION: A CHALLENGE IN THE TREATMENT OF UPPER GASTRO-INTESTINAL BLEEDING

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INTRODUCTION/BACKGROUND: Although relatively uncommon, Dieulafoy's lesion is an important cause of acute gastrointestinal bleeding due to the frequent difficulty in its diagnosis. Hemorrhage occurs through mucosal erosion from an abnormally dilated submucosal artery. Dieulafoy's lesion is usually located in the stomach within 6 cm of the gastroesophageal junction (75%) but it may occur anywhere in the gastrointestinal tract: the duodenum is the most common location (14%) followed by the colon (5%), surgical anastamoses (5%), the jejunum (1%) and the esophagus (1%). Dieulafoy's vascular malformation may cause massive, potentially life-threatening and often recurrent gastrointestinal bleeding so a high grade of suspicion is necessary for a quick and effective approach.

MATERIALS AND METHODS: We report the case of a 82-years-old woman who came to the Emergency Department with a sudden onset of melena and fatigue. The admission laboratory tests showed a normochromic normocytic anemia with a Hb of 9.4 g/dL, normal platelets and normal renal and hepatic function. The stool was positive for blood. Patient's medical history revealed essential arterial hypertension stage II with high cardio-vascular risk, paroxysmal atrial fibrillation, transient ischemic attack, valvular heart disease under treatment with oral anticoagulants. The patient was hemodynamically stable at admission, thus an emergency endoscopy was taken in consideration.

RESULTS: The emergency esophagogastroduodenoscopy was performed but the results showed no lesions. An ileocolonoscopy was performed also within 24 hours of hospital admission which showed diverticulitis of transvers and descending colon and the presence of massive amount of fresh blood in the intestinal lumen without finding the source of bleeding. CT scan and EnteroCT scan with contrast were performed for further evaluation and their results excluded the presence of an intestinal tumor and a bowel

infarction. The recurrent melena episodes imposed a second-look gastric endoscopy which revealed at approximately 20 centimeters in the jejunum an active bleeding caused by a Dielafoy's lesion, a pigmented protuberance from the vessel stump, with minimal surrounding erosion. Therapeutic endoscopy is the primary treatment modality for acute GI bleeding in Dieulafoy's lesion. The current modalities of endoscopic therapies include injection, ablation and mechanical therapy. In this case, the treatment included 10 ml Adrenaline 1:10000 injection followed by hemoclipping. After this treatment, the hemoglobin level and the clinical status of the patient improved.

CONCLUSIONS: Dieulafoy's lesion is a small relatively inconspicuous pigmented protuberance with minimal surrounding erosion and no ulceration so the initial esophagogastroduodenoscopy may not put the diagnostic in up to 30% of cases due to relatively small lesion size. A second or third endoscopy may be necessary for diagnosis.

KEYWORDS: Dieulafoy's lesion, upper gastro-intestinal bleeding, endoscopy, hemoclipping

12. EMERGENCY TRACHEOSTOMY: A CASE REPORT

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INTRODUCTION: A tracheostomy is a surgical incision which provides an alternative air passage to help breathing when the usual route is somehow blocked or reduced. It is often needed when health problems require long-term use of a machine (ventilator) to help breathing. In rare cases, an emergency tracheotomy is performed when the airway is suddenly blocked, such as after a traumatic injury to the face or neck. The surgical procedure performed in order to obtain the tracheostomy is named tracheotomy. In the reported case, the main objective of the procedure is to establish an alternative airway while the physiological one is blocked by an invasive obstructive process, determined by a tumoral mass. All that in order to ensure an optimal function of the respiratory tract.

In the following case we present a 50-years-old subject that checks in at the Emergency Room and displays the following signs and symptoms: shortness of breath, pathological whistling, downdraft, dysphonia and inspiratory dyspnea with superior obstruction. Pathological personal records include TB scars, chronic cigarette smoking and alcoholism. The medical records of the first-degree relatives are not known.

A local otorhinolaryngology exam is performed, and a tumoral infiltrative mass is identified in the inferior larynx. The mass is located in the right hemi larynx and it invaded the anterior commissure, which lead to a significant narrowing of the glottic space (1-2 mm).

MATERIALS AND METHODS: In the surgical procedure was used a nr. 9 tracheal tube (composed of connula, flange and a connector), inserted under local anaesthesia induced by Xilina 1% (II vials). Via a horizontal incision, the surgeon cuts a portion of the thyroid gland, after having previously pulled back the muscles, thus exposing the windpipe. Afterwards, the surgeon creates a tracheostomy hole situated in between the first and second tracheal cartilages and inserts the tracheal tube.

RESULTS: A tracheostomy hole was created, and a tracheal tube was inserted, thus restoring the normal functioning of the respiratory system of the subject. Following a favourable post operatory evaluation, the patient

receives medical treatment consisting in: Metronidazole, Perfalgan, Amoxiplus, ACC 200.

CONCLUSION: The tracheostomy procedure is indicated in cases of emergencies such as blockages caused by accidentally swallowing objects that get stuck in the windpipe, an injury, infection or a tumoral process or in conditions that lead to respiratory failure like paralysis after a major spinal cord injury or to maintain the vital needs of a comatose patient. In this case the subject presented a tumoral mass in the right larynx which led to the narrowing of the glottic space, the only perspective of survival for this subject was performing an emergency tracheostomy.

KEYWORDS: tumour, emergency tracheostomy, narrowing of the glottic space.

13. THE PREVALENCE OF DEPRESSION SYMPTOMS AMONG ROMANIAN EMIGRANTS

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BACKGROUND: Human migration has become more and more frequent lately, affecting most countries in the world. In Romania, this phenomenon became alarming after 1990 when 2 important migration waves were recorded. According to OECD, Romania is the 5th most affected country by emigration in the western European countries.

Emigrants are often faced with challenges and important changes in multiple aspects of their life. Accommodating to a culturally different place, both socially and geographically, generates high levels of stress, which can be a risk factor for developing psychiatric pathologies later in life. A lot of scientific researches have shown the presence of symptoms from the depression, anxiety and psychosis spectrums.

The purpose of this study is to compare the prevalence of depression symptoms in the emigrant and non-emigrant Romanian population.

MATERIALS AND METHODS: This paper is a descriptive cross-sectional study that analysed data from 557 people divided into two categories: emigrants (target group) and non-emigrants (control group). The data was collected using a questionnaire. It consisted of a variety of questions about their demographic and socioeconomic status and about their psychosomatic state. The answers were analysed using the IBM SPSS Statistics version 20 programme.

RESULTS: In both of the compared samples, the number of females was higher than the one of males. The most commonly found age group was 26-35 years old in the emigrants sample and 46-55 years old in the control group. The monthly minimum wage for the target group was 1000-3000 euros and 1000-1500 for the control group. 35% of the emigrants consider their wage to be enough for their daily expenses while only 22% of the control group can say the same thing. Approximately 56% of the emigrants

have problems learning a new language and 42% have communication problems in a foreign social environment.

A comparative analysis of the study groups based on their symptoms from the affective spectrum showed the lack of content regarding their own person (SAMPLE 1 - 4%, SAMPLE 2 – 2%, p), emotional unfulfillment (”often” SAMPLE 1 – 16,5%, SAMPLE 2 – 12%, p=0.03), guilty feelings (”often” SAMPLE 1 – 14%, SAMPLE 2 – 7%, p=0.04), feelings of loneliness (SAMPLE 1 - 10,2%, SAMPLE 2 - 6,1%), frequent uncontrollable crying(SAMPLE 1 - 7,1%, SAMPLE 2 - 4,3%), suicidal ideations (SAMPLE 1 - 2,3%, SAMPLE 2 - 1%) and slightly more elevated psychical exhaustion in the emigrants group. Regarding the future, most people from both sample groups have an optimistic view, with a lower but still statistically significant percentage seeing it as unsure and unstable(p=0.03) and very few viewing it in a negative way. Somatically speaking, a small percentage of the questioned people presented: headache, gastrointestinal symptoms (nausea, vomiting, diarrhea, constipation). Sleep evaluation showed a low sleep quality with very few hours of sleep each night and wake-ups.

CONCLUSIONS: Even though most emigrants have a good monthly income, depressive symptoms are more common among them. Women are more affected than men, and the prevalence of those symptoms is higher in the 26-35 years old emigrants age group.

KEYWORDS: emigration, romanian emigrants, depression symptoms, cross-sectional study

14. BRONCHO-PULMONARY CANCER - PECULIAR ONSET AND DIAGNOSIS ASPECTS

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INTRODUCTION: Broncho-pulmonary (lung) cancer is the most frequent cancer localization considering the incidence of newly diagnosed cases and the mortality rates. The clinical features occur due to either the primary tumor, its local/regional extension or the metastases. In about two thirds of the patients the metastases are present at diagnosis and in one third of these the symptoms are due to the metastases.

MATERIALS AND METHODS: We studied the medical records (hospitalization charts, hospital release papers) of a patient diagnosed with metastatic lung cancer, analyzing the clinical data, the imaging investigations as well as the treatment regimen and its outcome.

RESULTS: The patient was a 67 years old male living in a rural area. He was retired, he worked in the industry, with no traceable respiratory irritants or emissions. He never smoked. He was admitted in the emergency ward for severe pains in the left lumbar area and dysuria/pollakiuria that occurred a few days prior. An abdominal ultrasonography was performed for the possibility of kidney stones. The examination started in the epigastric area and revealed a 5 cm round-oval inhomogeneous hyperdense mass with hypodense halo that suggested the possibility of a malignancy of unknown origin. The chest X-ray showed parahilar on the left pulmonary field an inhomogeneous mass of low intensity of tumor aspect and retractile character. The patient was scheduled for CT-scan that was performed a few days later. The patient received Metamizole with limited reduction of the pains, later Tramadol was added. Although the patient had difficulties walking by the time of the admission, later he was unable to walk or even move in bed without help, he required gurney transportation. The thoracic CT-scan revealed a 7/5/6.5 cm tumor situated in the left hilum and infrahilar, on reconstructed images situated in the axillary and superior dorsal segments, with homogenous structure, moderate contrast fixation with small central necrosis areas. Besides that, small amount of pleural fluid on the left, numerous micronodules up to 6 mm in both lungs, numerous

lymph nodes measuring up to 1.5 cm in the hilum left and right, paratracheal right and axillary both sides were observed. The abdominal and pelvic CT-scan showed an enlarged liver with numerous round-oval shaped hypodense tumors ranged 1.3 to 7.4 cm with progressive peripheral contrast fixation. Numerous osteolysis images situated in the T2, T9 vertebrae, right transverse process of the T10, the lumbar vertebrae and the left iliac bone. The pulmonology and oncology examinations confirmed the T4N3M1 pulmonary cancer. The patient was referred to the oncology ward for proper therapy.

CONCLUSION: The patient was diagnosed with metastatic lung cancer that manifested onset clinical features due to the metastases.

KEYWORDS: lung cancer, onset, metastases.

15. RISK FACTORS IN INFANT PNEUMONIA

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INTRODUCTION/BACKGROUND: Infant pneumonia is a common condition that needs increased attention due to the multiple evolution possibilities and the factors involved in the etiopathogenesis. It is very important to identify the risk factors involved in the etiopathogenesis in order to prevent and apply the most appropriate therapeutic behavior. Starting from the main mechanisms which are the basis of the disease, we set out to find the correlations between pneumonia and the susceptibility factors of the infant: sex, origin environment, type of birth, gestational age and birth weight, which allowed the premature birth, but also family factors such as the existence of at least one smoker, the type of nutrition, diversification, immunizations and associated caressive pathology. Quantified deficiency pathology associated with infant pneumonia was represented by deficient rickets, iron deficiency anemia and protein-calorie malnutrition.

MATERIALS AND METHODS: We realised a retrospective study that included a group of 146 infants admitted between October 1 and December 31, 2019 in the Pediatric Clinic of the County Clinical Hospital of Craiova Emergency. They were diagnosed with pneumonia, and the data from the observation sheets were processed using Microsoft Office Excel.

RESULTS: In the study of the 146 cases analyzed, the majority belonged to males (56.8%, 83 cases), also the majority from rural areas (61.6%, 90 cases). After performing the anamnesis, the mode of birth by caesarean section was highlighted for 63.7% infants (93 cases). Taking into account the gestational age but also the birth weight, we noticed that 30.8% (45 cases) of infants were premature. In most families, there was at least one smoker respectively 105 cases, which represents 71.9% of the studied group. Regarding food, I noticed that the majority (60.2%, 88 cases) had

artificial nutrition and the incorrect diversification was present in 77 cases (52.7%). For 32.8% of the cases (48 cases) there was an incorrect effectuated immunization. Associated deficiency pathology was represented in 79 cases (54.1%) by deficient rickets, iron deficiency anemia in 63 cases (43.1%) and 17.1% for the protein-caloric malnutrition which represent 25 cases.

CONCLUSION: The study demonstrated the association between the different data obtained from the observation sheets and the diagnosis of pneumonia in infants. Therefore, the rural areas that involves multiple deficiencies, the cesarean operation that involves abnormal colonization of the newborn, but also the prematurity with major deficiencies of the body is within the risk factors of pneumonia in infants**.** Cigarette smoke predisposing to lung diseases, artificial nutrition with inferior quality compared to the natural one, incorrect diversification that implies difficult adaptability, incorrect immunizations, but even the association with deficiency pathology demonstrating global deficiencies of the body such as deficient rickets, iron deficiency anemia, protein-caloric malnutrition, are also considered risk factors for pneumonia in infants. The identification of these risk factors for infant pneumonia is necessary in the application of personalized medicine and in implementation of optimal prophylactic measures because mortality is still high.

KEYWORDS: Risk factors, Pneumonia, Infant

16. SURGICAL TREATMENT OF SQUAMOUS CELL CARCINOMA: THE EQUILIBRIUM BETWEEN AESTHETIC AND FUNCTIONAL

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BACKGROUND: Squamous cell carcinoma is the second most common non-melanoma skin cancer, arising from malignant proliferation of epidermal keratinocytes and thought to be related to sun exposure. These tumors appear in 90% of the cases in the facial area, at the average age of 70[1]. The treatment usually involves surgical excision, resulting defects that need reconstruction for significant aesthetic and functional implications.

MATERIAL AND METHODS: We report the case of a 69-year-old male who presented with a seven months history of ulcerative, whitish cutaneous lesion with elevated margins in the right parotideomasseteric region. Due to the high-risk location, the progressively increasing size and the characteristic aspect, the lesion was surgically excised with clear margins and the reconstruction has been done using a loco-regional skin flap from the cervical region.

RESULTS: The histopathological diagnosis was of squamous cell carcinoma, poorly differentiated (G3), with an anatomical invasion which corresponds to Clark level IV (invading into the reticular dermis) and a Breslow index of 4 mm. The tumoral fragment showed a central necrotic area and an underlying proliferation of tumor cells, free resection margins and an adjacent epidermis with actinic keratosis (though to be a possible precursor lesion). No tumor emboli or perineural invasion was observed. Immunohistochemistry was EMA positive and CEA and HMB45 negative. Post-surgery, the patient had not undergone chemotherapy nor radiotherapy, but he is still on regular follow up at an interval of one month without any evidence of disease recurrence.

CONCLUSION: Surgery is the primary means of treatment for the pathology presented[1]. Considering the location, the surgery can lead to a significant psychological effect but, with a vast experience of the surgeon, it can result in a very good-looking cosmetic outcome.

KEYWORDS: Squamous cell carcinoma, skin flap, facial tumor, surgery

17. A LOOK AT THE INCIDENCE OF ASTROCYTOMAS: A REFERENCE CENTER BASED STUDY.

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BACKGROUND: Astrocytomas are the most common malignant brain tumors characterized by diffuse brain invasion; this infiltrative nature prevents complete surgical resection. The 2016 CNS World Health Organization (WHO) classification uses an approach that separates localized astrocytic neoplasms from diffuse gliomas. The present study aims to assess cases of astrocytomas and glioblastomas in patients that were diagnosed in the Pathology Department at the County Emergency Clinical Hospital "Pius Brînzeu" Timișoara between 2008 and 2019.

MATERIALS AND METHODS: A retrospective histopathological study was performed, by reviewing a series of medical records from which we included in our study 214 patients (both male and female) that were diagnosed over the past 11 years with different grades of astrocytomas and were under the age of 51. We assessed the frequency of the diagnoses in both genders, on different age groups, focusing on histopathological diagnoses and rate of recurrence.

RESULTS: Out of 214 patients diagnosed over the past 11 years, 131 (61.21%) patients were male, and 83 (38.78%) patients were female. 27 (12.61%) patients were grouped in the pediatric category (under the age of 18). Pathological examination revealed that out of 214 cases 95 (44.8%) were glioblastomas, and 35 (16.8%) cases were high-grade astrocytoma (diffuse gliomas – WHO 2016). Subsequently, the cases were classified in year of presentation, age groups, urban/rural residence, histopathological type, and recurrence.

CONCLUSIONS: Our results show that most cases are diagnosed late in the diseases progression, have aggressive biological behavior, and high recurrence rate, even for low-grade tumors.

KEYWORDS: Astrocytoma, glioblastoma, brain tumor, histopathology

18. ANALYZING TISSUE REACTION TO CRANIAL WINDOW IMPLANTATION WITH OPTICAL COHERENCE TOMOGRAPHY

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INTRODUCTION: In vivo experiments are becoming essential in neurobiology. Thus, numerous cranial window (CW) techniques are described, some place the cover glass directly on the dura mater, while other choose to have a gel mediating the two. Our aim was to evaluate the impact of different implantations using optical coherence tomography (OCT).

MATERIAL AND METHOD: In this study we used 12 C57BL/N6 mice with ages between 12 and 14 weeks. Mice received an intraperitoneal anesthetic consisting of ketamine and xylazine. The chronic cranial window technique implies the removal of the scalp of the animal, fixing the head in a metal support, removing periostum and bone. After dura mater was exposed and cleaned, we randomly assigned animals in 3 groups: one received a direct glass coverslip implantation, without any mediation in between glass and dura mater, while the others had special polymer gels (Gel 1 and Gel 2) added in between dura mater and glass. After the successful implantation, the mice were imaged using an optical coherence tomography machine for 6 days in a row, analyzing mean, integrated density (IntDen), skewness and kurtosis, which are parameters of symmetry, of both cortex and corpus callosum (CC).

RESULTS: After analyzing the mean pixel intensity we observed that both cortex and corpus callosum in all investigated groups showed an initial decrease that started to correct after day 3. The same pattern was observed when analyzing integrated density, except in case of Gel 1 group where this recovery was not observed. When determining symmetry of pixel intensity, we observed an almost total reversal for the control group, while Gel 1 and especially Gel 2 had a more disorganized pixel intensity, suggesting additional biological factors being involved.

CONCLUSIONS: The use of cranial window is a gold standard in the in vivo neuroscience field, however there are still lots of issues that have to be optimized before successfully using the technique for optical coherence studies. Our data show the importance of the good control group in modern research, where the different materials can impact directly both the quality of the surgical intervention and the overall tissue reaction. As such a comparison with so called “normal animals” can lead to false conclusions.

KEYWORDS: Cranial window, optical coherence tomography, in vivo

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Clinical Cases

1. **TASIGNA IN TREATMENT OF THE PATIENTS DIAGNOSED WITH CHRONIC MYELOID LEUKEMIA**
2. **THE MOST COMMON COMORBIDITIES IN PATIENT WITH PULMONARY TROMBOEMBOLISMS AND POSSIBLE IMPACT ON MORTALITY**
3. **FRIEDREICH ATAXIA – A RARE CAUSE OF HYPERTROPHIC CARDIOMYOPATHY**
4. **INFLAMMATION, CARDIOVASCULAR DISEASE AND CANCER**
5. **THE IMPORTANCE OF GENETIC TESTING IN DIAGNOSIS OF RARE DISEASES – A CASE REPORT FOR A 22Q11 DELETION IN A PACIENT WITH VELO CARDIO FACIAL SYNDROME**
6. **HEART FAILURE- A CASE STUDY**
7. **A MODERN APPROACH ON PRENATAL SCREENING BY NON-INVASIVE PRENATAL TESTING – A RETROSPECTIVE STUDY OF 200 CASES**
8. **CLINICAL EFFECTS OF PHARMACOLOGICAL DRUGS AND AGING ON CVD PATIENTS WITH HYPOKALEMIA**
9. **EFFECTS OF PHARMACOLOGICAL DRUGS AND AGE PARAMETERS ON DILATED CARDIOMYOPATHY (DCM) TREATMENTS**
10. **CHALLENGES IN PEDIATRIC SPINAL MUSCULAR ATROPHY AND ITS TREATMENT PERSPECTIVES**
11. **EHLERS-DANLOS SYNDROME – THE SILENT KILLER**

Clinical Cases

1. TASIGNA IN TREATMENT OF THE PATIENTS DIAGNOSED WITH CHRONIC MYELOID LEUKEMIA

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BACKGROUND: Chronic myeloid leukemia (CML) is characterized by Philadelphia (Ph) chromosome with a chimeric gene BCR–ABL. Beside the normal translocation of the chromosomes 9 and 22 found in CML. Nilotinib is a tyrosine kinase inhibitor with high target specificity approved for use in patients with newly diagnosed CML in chronic phase (CML-CP), patients that are resistant or intolerant to prior therapy. In this study we evaluated the efficacy of TASIGNA (Nilotinib) in Ph1 positive chronic myeloid leukemia patients with classical translocation or with others chromosomal anomalies.

METHOD: We here report a group of 15 patients (7 females and 8 males) with a median age of 49,13 years (with limits between 19-79) that received Nilotinib. The evolution of patients with CML was evaluated to determine the efficacy and tolerability of Nilotinib.

RESULTS: Eight patients (53%) presented classical Ph1, created by reciprocal t(9;22)(q34;q11) translocation and 7 patients (47%) had Ph1 plus other cytogenetic rearrangements including 3 patients (20%) had a numerical anomaly and 4 patients (27%) had a structural anomaly. The numerical anomalies were varied aneuploidy**.** The structural anomalies were identified in 4 cases: one of the cases had a triple translocation between the chromosomes 9, 19 and 22, noted t(9;19;22) and a quadruple translocations between the chromosomes 8, 9, 19 and 22, noted t(8;9;19;22); the second case had a t(7;15) translocation; the third case had a double translocation t(10;21) and t(21;22) and the fourth case had translocation t(4;17) with duplication dup(17q). All patients achieved a hematologic response after 4 months of Nilotinib treatment. Complete cytogenetic response (CCyR) was achieved in all 15 patients. Eleven patients (77%) had an CCyR in 6 months, 2 patients (11,5%) after 12 months and 2 patients (11,5%) after 18 months. Responses were durable, with 13 patients (87%) maintaining CCyR for the entire period followed and 2 patients (13%) had an relapse: one at 11

months and the other one after 13 months. In total there were conducted 39 evaluations. With an average of 2,6 evaluations per patient (with limits between 2 and 4 evaluations).

CONCLUSIONS: We found out that TASIGNA was efficient in chronic phase CML patients. Administration of Nilotinib offered an effective treatment in all patients with CML whether if they had a standard or a variant of Ph1 chromosome translocation and CCyR was higher than in other treatments.

KEYWORDS: Nilotinib; chronic myeloid leukemia (CML); variant Philadelphia chromosome, cytogenetics

2. THE MOST COMMON COMORBIDITIES IN PATIENT WITH PULMONARY TROMBOEMBOLISMS AND POSSIBLE IMPACT ON MORTALITY

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INTRODUCTION: Pulmonary thromboembolisms are very often associated with various comorbidities and they contribute to the development of PTE in a varying degree and can significantly affect the outcome.

PURPOSE: To determine which comorbidities accompany pulmonary thromboembolism and how they affect the mortality of patients with it.

METHODS AND MATERIALS: The study included 356 patients with pulmonary thromboembolism who were admitted to the Emergency Medicine Clinic from September 2011 to September 2017, with an average age of 64 + -11 years, of which there were more women (51%). They are divided into six groups based on their comorbidities (symptomatic vascular disease, surgery /trauma, psychoneurological diseases, malignancies, infections, chronic inflammatory diseases)

RESULTS: Most patients were classified into surgery/trauma group (29.88%), while the least of them had an infection (11.24%). The highest mortality was in the group with malignant disease (23.49%), but this was not statistically significant ($p = 0.90$). Also, there was no statistically significant difference in mortality between healthy and those with one comorbidity ($p = 0.72$), while there was significant difference in those with one and two comorbidities ($p = 0.00017$), as well as between healthy and those with two comorbidities ($p = 0.0004$).

CONCLUSION: A large number of comorbidities accompany or cause pulmonary thromboembolism and also impair the survival of these patients. Therefore, it is important to pay attention to its prevention in all those who have at least one criterion of Virhov's triad fulfilled.

KEYWORDS: pulmonary thromboembolism; risk factor; comorbiditie;, mortality

3. FRIEDREICH ATAXIA – A RARE CAUSE OF HYPERTROPHIC CARDIOMYOPATHY

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INTRODUCTION*:* Friedreich ataxia is a rare, progressive, inherited neurodegenerative disease, leading to muscle coordination problems with movement, balance, loss of proprioception, scoliosis, dysarthria, dysphagia, diabetes mellitus. Prevalence of disease is 0,1 - 4,7/100.000. The cardiac involvement is manifested as a hypertrophic cardiomyopathy with rhythm problems, and represents mostly the cause of death. The genetic background is a defect in the gene encoding the mitochondrial protein frataxin, which play a crucial role in the mitochondria iron–sulfur clusters, structures with subsequent importance in oxidative phosphorylation and fatty acid synthesis. Frataxin deficiency is associated with iron and fatty acid deposits in the cardiomyocytes and the dorsal root neurons.

METHOD*:* We present a case of a 16-year-old teenager, diagnosed as an infant with neurologic problems, considered to be cerebral palsy with spastic tetraparesis. At 3 years of age a systolic murmur occurred and a hypertrophic cardiomyopathy was documented. Since then, the motor disabilities progressed with ataxia, coordination and gait problems. Progressive scoliosis, dysphagia, dysarthria, as well as hypoaccusia occurred. The patient was assessed by serial ECG's, Holter-ECG, echocardiographies – 2D, speckle-tracking, as well as serial neurological examinations, audiogram. The whole clinical picture allowed us to establish the clinical diagnosis of Friedreich ataxia at the age of 17 years.

RESULTS*:* The neurologic involvement is severe, demonstrated by FARS score = 4,5 (out of 6). There is an impressive, asymmetric cardiac hypertrophy (septum 40 mm), with reduced global longitudinal strain, with no rhythm disturbances until now. He receives calcium channel blockers medication and coenzyme Q10 /idebenone. In the future there is a risk of arrhythmia, heart failure, embolic events, cardiac arrest, as well as loss of ambulance and wheelchair confinement. No insulin resistance or diabetes was detected until now. The younger sister of the patient is not affected.

CONCLUSION*:* A rare and severe form of hypertrophic cardiomyopathy with early onset at 3 years of age, and major risk of life-threatening events is described at a 17 years old boy. The etiology of hypertrophic cardiomyopathy is Friedreich ataxia, where the impressive neurologic involvement is superimposed to the cardiac problems.

KEYWORDS*:* Ataxia, Cardiomyopathy, Frataxin.

4. INFLAMMATION, CARDIOVASCULAR DISEASE AND CANCER

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Most older individuals develop inflammation, a condition characterized by elevated levels of blood inflammatory markers that carries high susceptibility to chronic morbidity, disability, frailty, and premature death. Potential mechanisms of inflammation include genetic susceptibility, central obesity, increased gut permeability, changes to microbiota composition, cellular senescence, NLRP3 inflammation activation, oxidative stress caused by dysfunctional mitochondria, immune cell dysregulation, and chronic infections. Inflammation is a risk factor for cardiovascular diseases (CVDs), and clinical trials suggest that this association is causal. Inflammation is also a risk factor for chronic kidney disease, diabetes mellitus, cancer, depression, dementia, and sarcopenia, but whether modulating inflammation beneficially affects the clinical course of non-CVD health problems is controversial. This uncertainty is an important issue to address because older patients with CVD are often affected by multimorbidity and frailty - which affect clinical manifestations, prognosis, and response to treatment - and are associated with inflammation by mechanisms similar to those in CVD. The hypothesis that inflammation affects CVD, multimorbidity, and frailty by inhibiting growth factors, increasing catabolism, and interfering with homeostatic signalling is supported by mechanistic studies but requires confirmation in humans.

The link between cardiovascular (CV) risk factors, inflammation, and cancer is probably well established. Chronic inflammation drives a lot of cancers by shaping the early tumour microenvironment and promoting cancer initiation and development. This process involves complex tumour–immune cell interplay and it can be partly due to a deficit in the resolution of inflammation. Notably, organs with high tumour incidence in inflammatory settings are often those that interact closely with microbial products or directly with microbiota, such as the intestine or lung.

The axiom "you get what you pay for" does not appear to consistently apply to cardiovascular medications in the United States. Unlike in many countries where reimbursement for drugs is directly linked to their clinical effectiveness, a new modeling study shows a wide spectrum of cost-effectiveness for a basket of frequently prescribed cardiovascular medications. Campbell and colleagues estimated the long-term effectiveness for each of 30 cardiology drugs by using evidence extrapolated from hard-endpoint randomized controlled trials. "The majority of the studies we analyzed led to an ICER near or below $100,000 per QALY gained, while five resulted in an ICER above $175,000 per QALY gained," said Campbell. For comparison, the National Institute for Health and Care Excellence (NICE), which provides price guidance in the United Kingdom, uses a QALY threshold of around £30,000 (or $38,000) in deciding whether to pay for healthcare interventions.

In my opinion, the risk of inflammation, cardiovascular disease and cancer is higher for the older patients than they are for the younger ones. Principal factors for developing CVD and cancer are obesity, smoking, stress, anxiety.

Clinical Cases

5. THE IMPORTANCE OF GENETIC TESTING IN DIAGNOSIS OF RARE DISEASES – A CASE REPORT FOR A 22Q11 DELETION IN A PACIENT WITH VELO-CARDIO-FACIAL SYNDROME

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BACKGROUND: Most rare diseases have a genetic cause. The challenge is even greater for the cases where there is no evidence of hereditary transmission, de novo cases being the most difficult to diagnose. The importance of choosing the right genetic tests that will help us to specify the diagnosis is crucial. The clinical spectrum of Velocardiofacial Syndrome (VCFS) is very wide and this is the reason why this disease is known under different names: VCFS, Shprintzen syndrome, DiGeorge syndrome, DiGeorge sequence, CATCH 22, deletion 22q11 syndrome, Cayler syndrome and conotruncal anomaly face syndrome. VCFS occurs in between 1 in every 4000 and 7000 births.

MATERIALS AND METHODS: For a patient with a suspicion of VCFS there must be made a series of clinical exams. The genetic consultation is very important for the identification of facial / somatic dysmorphia and major malformation. Cardiological consultation includes an Electrocardiogram (ECG), Cardiac ultrasound and chest X-ray. Cytogenetic methods were represented by standard cytogenetic lymphocytes analysis using G-banding and fluorescent in situ hybridization (FISH) with DiGeorge / VCFS TUPLE 1.

RESULTS: The patient was born by caesarean section at 38 weeks of gestation, after an uncomplicated pregnancy. It was the first pregnancy for the nonconsanguineous healthy couple. The following manifestations of the disease were noted: cleft palate with feeding difficulties, respiratory infection, dysmorphic face with almond-shaped eyes, a long and wide nose, small and low-set ears, tetralogy of Fallot, cryptorchidism and varus equinus. ECG showed right axis deviation and right ventricular

hypertrophy. Cardiac ultrasound demonstrated Fallot tetralogy and pulmonary artery stenosis. A chest X-ray showed 'boot shaped heart' and reduced vascular markings. Cytogenetic analysis revealed a translocation involving chromosomes 15 and 22 in a karyotype noted 45,XY,-22,der(15),t(15;22)(q26.2;q12). 22q11 deletions were suspected which was demonstrated by FISH method. These cytogenetic aspects appear to be rare in the etiology of VCFS, as > 1% of all 22q11 deletions are the result of an unbalanced translocation, involving chromosomes 22 and another chromosome.

CONCLUSION: Translocation involving chromosome 22 in a karyotype with 45 chromosomes is a rare event and, to the best of our knowledge, this has not been previously reported involving chromosomes 15q and 22q. Genetic diagnosis is essential to enable a successful diagnosis and genetic counseling for the family.

KEYWORDS: velo-cardio-facial syndrome, unbalanced (15;22) translocation, 22q11.2 deletion, cleft palate

6. HEART FAILURE- A CASE STUDY

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INTRODUCTION: The chosen case study illustrates the basis for therapeutic management concerning one of the most encountered pathology nowadays, cardiac failure, and outline the remaining gaps in knowledge and the need for future advances in this field

MATERIALS AND METHODS: We would like to display a case of cardiac failure with reduced ejection fraction on a 35-year-old man who presented himself to the hospital accusing dyspnea and orthopnea which debuted two days ago, progressive fatigue over the previous four weeks and dry cough. From recent history, it has been noted pneumonia, which has been treated successfully with antibiotics. The patient also affirms he is a non-smoker. Physical examination found first-degree hypertension, second-degree obesity, basal lung crackles, edema in the distal part of both inferior limbs and a general feeling of unwell. Blood tests revealed high levels of myoglobin (MYO), brain natriuretic peptide (BNP), N-terminal pro-brain natriuretic peptide (NT-proBNP), low-density lipoprotein cholesterol (LDL-col) and triglyceride (TG). Chest radiography showed cardiomegaly and increased vascular pedicle width. Chest and abdominal ultrasound presented pulmonary stasis and severe hepatomegaly. Echocardiography revealed dilated left atrium, second-degree mitral regurgitation, first-degree tricuspid regurgitation, portal hypertension, global hypokinesia and reduced left ventricular ejection fraction. Computed tomography scan confirmed cardiomegaly.The main concern was heart failure with reduced ejection fraction wich had as substructure myocarditis.Differential diagnosis had to be done with pulmonary thromboembolism, pericarditis, and primary pulmonary dysfunction such as pneumonia, asthma and chronic obstructive pulmonary disease.

RESULTS: Treatment was started with angiotensin II receptor antagonists (Valsartan), diuretics (Furosemide, Spironolactone), beta-blocker (Bisoprolol) and an HMG-CoA reductase inhibitor (Rosuvastatin). At discharge from hospital, the patient showed remission of edema. After the fourth week reassessment, the patient was in a better state, but he was still

symptomatic. The decision was to make changes into the current medication and start treatment with a combination of Valsartan and Sacubitril. The patient responded very well. Reassessment after two months shows
the patient with no symptomatology whatsoever and in a very good state. He is then sent to take a heart MRI scan and a coronary angiogram, whose results turned back normal.

CONCLUSION: Even when a strict protocol is attended clinicians need to continue to stay alarmed in order to avoid the potential medical errors related to misinterpretation of similar symptomatology of other pathology, to get the most efficient treatment. Cardiac failure it`s a very common and severe disease and due to these facts, it is essential to correct diagnosticate and treat this pathology.

Clinical Cases

7. A MODERN APPROACH ON PRENATAL SCREENING BY NON-INVASIVE PRENATAL TESTING – A RETROSPECTIVE STUDY OF 200 CASES

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BACKGROUND: Non-invasive prenatal testing represents a modern fetal screening method, which uses cell-free fetal DNA circulating in the maternal blood. The purpose of this paper is to use a non-invasive prenatal test, NIFTY (Non-invasive Fetal Trisomy Test), to identify possible fetal genetic anomalies. Currently, with NIFTY test there can be identified 6 aneuploidies (+9, +13, +16, +18, +21, +22), and 83 microdeletions, but also the fetal sex, as well as gonosomal aneuploidies.

MATERIALS AND METHODS: The study is a retrospective one, it was conducted between Sept 2014 - December 2019, on a number of 200 pregnant women in the first and second trimester of pregnancy. All patients received genetic counseling, and they signed an informed consent. The NIFTY test involved maternal blood collection and isolation of cell-free fetal DNA.

RESULTS: The indications for performing NIFTY were as follows: 74 cases (37%) advanced maternal age, 31 cases (15,5%) pathological obstetrical history (abortions, pregnancies stopped in progress), 7 cases (3,5%) echocardiographic anomalies, 3 cases (1,5%) a child with genetic disease in the family, 1 case (0,5%) biochemical risk, 1 case (0,5%) a parent with a balanced chromosomal anomaly, and 104 (52%) of patients performed NIFTY on request. Some of the patients had more than one indication. The age of the patients ranged from 21 to 47 years old, with an average of 33 years old. In 2014 NIFTY was performed for 4 cases, in 2015 for 8 cases, in 2016 for 2 cases, the number began to increase from 2017 to 37 cases, 2018 with 72 cases, reaching in 2019 the number of 77 cases. The gestational age was between 10 and 19 weeks, with an average of 14 weeks;

at 10 weeks 45 cases were registered, while at 18 and 19 weeks there was only one case. Of the 200 cases studied, 194 (98%) had a normal result, while 4 (2%) had pathological results. Of the 4 cases with high risk, 2 had risk of Trisomy 21 (Down Syndrome), one case had risk of Prader-Willi Syndrome, and one case had risk of Xp deletion. To specify the diagnoses, an invasive method was performed: amniocentesis in 3 cases, and chorionic villus sampling (CVS) in one case. Both cases of Down Syndrome, and the Xp deletion were confirmed by fetal karyotyping. Microarray technique confirmed Xp deletion and invalidated Prader-Willi Syndrome.

CONCLUSION: Non-invasive prenatal testing is becoming increasingly used, being a modern and safe method to detect pregnancies with risk for fetal anomalies (trisomies and
microdeletions). However, it doesn't indicate a definitive diagnosis, the confirmation of a pathological diagnosis is still required by an invasive method - amniocentesis or CVS.

KEYWORDS: non-invasive prenatal testing, NIFTY, trisomy 21, microdeletions

Clinical Cases

8. CLINICAL EFFECTS OF PHARMACOLOGICAL DRUGS AND AGING ON CVD PATIENTS WITH HYPOKALEMIA

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INTRODUCTION / BACKGROUND: Bowling et al (2010) stated that hypokalemia was common in patients with heart failure and was associated with poor outcomes. Mattsson et al (2016) reported that the hypokalaemia could cause various adverse effects on cardiovascular conditions, including initiation of cardiac arrhythmias. Kjeldsen (2010) reported that in case of myocardial infarction, increased risk of ventricular tachycardia and ventricular fibrillation were found to be associated with hypokalemia. Hoss et al (2016) reported that patients with diuretic therapies were prone to developing low serum potassium levels, which could lead to future incidences of ventricular arrhythmias and sudden cardiac death. Kusano et al (2001) reported the results of several clinical studies which demonstrated the associations of diuretic therapy-induced hypokalemia with increased incidence of ventricular arrhythmias. Ruisz et al (2013) found furosemide-induced hypokalemia in young females working in the health-care institutions. Mattsson et al (2016) suspected that intake of sodium-rich diet and use of diuretics medications might be associated with the initiation of hypokalemia. The proposed research was therefore, designed to study the effects of commonly used pharmacological drugs for cardiovascular disease (CVD) management and patients' age parameters on their serum potassium levels and long-term outcomes on their cardiovascular health evolutions.

MATERIALS AND METHODS: A clinical study was carried out with 44 cardiovascular disease (CVD) patients, admitted in the Clinica de Cardiologie (ASCAR), to find the clinical effects of pharmacological drugs and patient age parameters on the hypokalemia levels as well as their cardiac disease evolutions. As a part of the alleviation process, all 44 patients were treated with different types of pharmacological drugs. Upon their admission, they were treated with specific drugs on the basis of their specific ailment conditions. To measure the age effects, all patients were divided into different sub groups, on the basis of 10 years of age ranges, namely, Group 1 (41-50 years), Group 2 (51-60 years), Group 3 (61-70 years), Group 4 (71-80 years) and Group 5 (81-90 years). Patients'

hypokalemic data from each group were analyzed to see if there were any mean differences between age groups.

RESULTS: The pharmacological drug treatments for patients with cardiovascular diseases shows that patients administrated with beta-blocker were detected with the highest hypokalemic status (72.7% ± 6.80), followed by loop diuretics (65.9% ± 7.23). On the other hand, when treated with angiotensin receptor blocker or anti-ischemic drugs, they were detected with lowest hypokalemic problems (15.9% ± 5.60 and 13.6% ± 5.23, respectively). Arranging all 44 patients under 5 different age groups (with 10 year age ranges) showed some variations in average serum potassium levels among the age groups and total population average, but was not very different. When considering all of them, majority of the patients (77.3%) was found with mild hypokalemic state, whereas, only a quarter of them (22.7%) were with moderate hypokalemia.

CONCLUSION: While comparing different pharmacological drug treatments on CVD patients, our results suggested that administration of beta-adrenoceptor antagonists (beta-blocker) or loop diuretics to CVD patients were related with the higher levels of hypokalemia problems. The current results also revealed that among the patients, though patients under different age groups had different levels of average serum potassium. As serum potassium imbalance could be due to drug-induced metabolic rearrangements or with normal ageing, the proper management of serum potassium levels in CVD patients are very important and need an urgent attention.

KEYWORDS: Cardiovascular Diseases (CVD), Pharmacological Drug Treatment, Aging effects, Hypokalemia, Potassium Replacement Therapies.

Clinical Cases

9. EFFECTS OF PHARMACOLOGICAL DRUGS AND AGE PARAMETERS ON DILATED CARDIOMYOPATHY (DCM) TREATMENTS

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INTRODUCTION / BACKGROUND: Mary et al (1989) reported that treatment of DCM is aimed primarily at alleviating symptoms of congestive heart failure and preventing sudden death. Different classes of pharmacological agents including, diuretics, cardiac glycosides, b-adrenergic blockers, and ACE-inhibitors, might inhibit the LV remodeling process, and also treat the symptoms. Node et al (2003) reported that pharmacological agent like statin, through improving endothelial function and suppress systemic inflammatory responses, might improve cardiac function in patients with non-ischemic left ventricular dysfunction. Elliott (2000) suggested that angiotensin converting enzyme (ACE) inhibitors were the mainstays of treatment in patients with IDCM, irrespective of the severity of heart failure. Node et al (2003) reported that short-term statin therapy might improve cardiac function, neuro-hormonal imbalance, and symptoms associated with idiopathic dilated cardiomyopathy. Our motivations behind the choice of this specific topic were to explore the interrelationships among pharmacological drugs, patients' age and dilated cardiomyopathy.

MATERIALS AND METHODS: Clinical data for patients with dilated cardiomyopathy, admitted in ASCAR during 4.9 years periods, were systematically screened. As part of their standard treatment for controlling cardiovascular diseases and co-morbid disease, all 68 patients were treated with a range of pharmacological drugs. On the basis of their age ranges, 66 patients were categorized into 4 different ‘age groups’, with 10 years intervals, including, group 1 (51-60 years), group 2 (61-70 years), group 3 (71-80 years), and group 4 (81-90 years). The left atrial, left ventricular and ejection fraction data were then analysed on the basis of these age groups.

RESULTS: The results show that the patients with cardiovascular disease were treated with 12 different types of standard drugs, including, Diuretic, Beta-blocker, angiotensin converting enzyme (ACE) inhibitors / Angiotensin II receptor blockers (ARB), Anti-platelet, Anti-coagulant, Statin, Nitrate / Nitro-glycerine, Digoxin, Anti-ischemic, Calcium channel blocker, Potassium channel blocker and Silimania. When the 4 age groups were compared, it was found that patients in age group 1 were recorded with average 55.1 ± 2.59 mm left atrial diameter (LAD), 59.2 ± 3.37 mm left ventricular end diastolic diameter (LVD), and 37.5 ± 3.85 % ejection fraction (EF). The results shows that younger patients in Group 1 (51-60 years) had comparatively larger left atrial and left ventricle end diastolic diameters than other 3 age groups with elderly patients.

CONCLUSION: Depending on their prevailing primary and co-morbid disease conditions, patients were treated with 11-12 different pharmacological drugs. Among them, patients with AF received highest ratios of 5 drugs including, beta-blocker, ACE inhibitor / ARB, anti-coagulant, digoxin and potassium channel blocker, whereas, the patients with co-morbid DM received highest ratio of diuretic, statin and nitrate / nitro-glycerine. While comparing effects of different age groups, patients in Group 1 had averagely highest LAD & LVD and lowest EF values, through the LAD & EF values were not statistically different from Group 4 values.

KEYWORDS: Dilated cardiomyopathy (DCM), Beta-blocker, ACE inhibitor, Anti-coagulant, Digoxin, Potassium channel blocker, Diuretic, Statin, Nitro-glycerine, LAD, LVD, and EF.

Clinical Cases

10. CHALLENGES IN PEDIATRIC SPINAL MUSCULAR ATROPHY AND ITS TREATMENT PERSPECTIVES

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BACKGROUND: The Spinal muscular atrophy (SMA) is a devastating autosomal recessive neuromuscular disease characterized by motor neuron degeneration in the brain stem and spinal cord (Parente and Corti, 2018). Its incidences in every 1 in 6,000 - 10,000 live births, leads to progressive symmetrical proximal muscle weakness & atrophy, and appears as the most common cause of infant genetic mortality (Banstola et al, 2016). The SMA is clinical classified into four phenotypes on the basis of age of onset, phenotype severity and motor function achieved (D'Amico et al, 2011). The Type I (Werdnig-Hoffmann disease) is the most severe form, with an onset within the first 6 months of age and typically dies within the first 2 years of life. In type II, affected children sit unassisted, may be able to walk for a short distance, and usually survive over 10 years of age. Type III (Kugelberg-Welander disease) has onset in around the age of 3 years and patients achieve the ability to walk & have a normal life expectancy. Type IV (adult-onset SMA) is the mildest form of SMA, with onset in adulthood, normal life expectancy and modest disability (Sifi et al, 2013; Groen et al, 2018). The medical management of SMA patients includes respiratory, nutritional, and musculoskeletal supportive care. Since its approval by the US Food and Drug Administration (FDA) in December 2016 and by the European Medicines Agency (EMA) in April 2017, Nusinersen became the first therapeutic treatment agent for the SMA (Parente and Corti, 2018). It is a modified antisense oligonucleotide and leads to the production of full length functional SMN2 protein. The SMA has tremendous social and financial consequences even in high-income countries. In the United States, treatment with nusinersen costs US $ 750,000 for six injections during the first year of treatment and $ 375,000 per year for each subsequent year of treatment (Groen et al, 2018). In Spain, the estimated average annual cost per patient was € 33,721 Euros for patients in 2014 (Lopez-Bastida et al, 2017).

METHODS: Our objective was to evaluate the current availability of approved therapeutic agents for SMA management in EU patients, specially for the children. SMA management data, within the EU countries including Romania, together with the world-wide socio-economic impacts data were compiled through published research articles.

RESULTS: Since its approval for SMA treatment in EU, the Nusinersen brought unanimous relief to the patients and their families, as a realistic hope of disease-modifying therapies for the treatment (Groen et al, 2018). Nusinersen treatment over 3 years resulted in motor function improvements and disease activity stabilization, which also shown its long-term benefits in later-onset of SMA (Basil et al, 2019).

CONCLUSION: Though there are other therapeutic approaches for SMA management, namely, neuro-protective therapies, SMA modifiers and combinatorial therapy approaches, muscle activators strategy, gene therapy etc. are under development, only the SMN-targeted therapies are currently approved by the EMA for EU patients and successfully used within the EU countries.

KEYWORDS: Spinal Muscular Atrophy, Pediatric SMA types, management strategies, Nusinersen, Socio-economic costs.

11. EHLERS-DANLOS SYNDROME – THE SILENT KILLER

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INTRODUCTION: Ehlers-Danlos syndrome is a group of disorders that affect connective tissues supporting the skin, bones, blood vessels and many other organs and tissues. Defects in connective tissues cause the signs and symptoms of these conditions, which range from mildly loose joints to life-threatening complications. Many people with the Ehlers-Danlos syndromes have soft, velvety skin that is highly stretchy (elastic) and fragile. Affected individuals tend to bruise easily, and some types of the condition also cause abnormal scarring. The syndrome is caused by mutations in at least 19 genes which affect the collagen protein. The 2017 International Classification for Ehlers-Danlos syndromes recognizes 13 subtypes mainly based on the clinical manifestations.

The combined prevalence of all types of Ehlers-Danlos syndrome appears to be at least 1 in 5,000 individuals worldwide. One of the most dangerous forms of this syndrome, the vascular subtype, can cause unpredictable tearing (rupture) of blood vessels, leading to internal bleeding and other potentially life-threatening complications.

MATERIAL AND METHODS: A 22 year old man with medical history of ecchymosis and petechiae was admitted to the Thoracic Surgery Clinic with a cervico-mediastinal hematoma in remission. The hematoma was in fact a consequence of a cough. After a few days the hematoma resorbed and while waiting for the discharge papers he coughed again and crashed. He was admitted in the ICU department for imminent respiratory arrest by sudden swelling of the bilateral cervical region, dyspnea, obnubilation, pale teguments and shock. He went into cardiac arrest and despite of all the resuscitation maneuvers the patient was not responsive.

RESULTS: The real cause of death was determined after the autopsy. The macroscopic exam revealed a jugular vein with thin walls and dilacerations

of the wall on a 1/1 cm area, a bilateral latero-cervical hematoma, a mediastinal hematoma and a pleural hematoma. Other important aspects were the pale teguments and mucosae, the ecchymosis over the left superior thorax and scrotum and the fragility of the tegument when closing the body. The histopathological examination concluded that every collected fragment from different organs presented venous blood vessels with very thin walls, discontinuities and the loss of normal structure of the wall by fragmentation of the media and adventitia tunics. Also, the papillary dermis presented very thin and fragmented collagen fibers and the jugular vein was discovered with a disorganized and interrupted wall because of the fragmentation of collagen fibers. The conclusion was that the patient was suffering from Ehlers-Danlos syndrome the vascular subtype, due to all the clinical symptoms and postmortem investigations.

CONCLUSIONS: The main purpose of this paper was to draw attention to the rare diseases that need to always be in the clinician's mind.

KEYWORDS: Ehlers-Danlos Syndrome, vascular subtype, connective tissue

Preclinical Studies

Preclinical Studies

1. **ACUTE ADMINISTRATION OF VITAMIN D MITIGATES OXIDATIVE STRESS IN HUMAN VARICOSE VEINS**
2. **PRINCIPLES OF HYPNOTHERAPY APPLIED IN REDUCING ANXIETY AMONG PATIENTS**
3. **THE EFFECT OF WHEY PROTEIN SUPPLEMENTATION. BCAAS AND CREATINE**
4. **ANIMAL- ASSISTED THERAPY- MAGIC OR MEDICINE?**

1. ACUTE ADMINISTRATION OF VITAMIN D MITIGATES OXIDATIVE STRESS IN HUMAN VARICOSE VEINS

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BACKGOURND: Obesity, a global health problem whose prevalence has dramatically increased over the past decades, shares oxidative stress and endothelial dysfunction as common pathomechanisms. The condition is an important risk factor for all types of lower limb venous disease (hence the term 'phlebesity") including varicose veins. Also, an high BMI is correlated with a low serum level of 25(OH)-D_3.

MATERIAL AND METHODS: The aim of the present study was to investigate the *ex vivo* effects of 1,25$(OH)_2$-D_3, the active form of vitamin D, on the oxidative stress in varicose veins harvested from obese and non-obese patients subjected to surgery. Patients included in the study were randomized in obese or non-obese, vitamin D status was determined through total 25(OH)-D_3 level, and venous samples were harvested during the surgical procedure. Vascular preparations were treated or not with 1,25$(OH)_2$-D_3 (100 nM, 12 hours incubation, organ culture) and used for reactive oxygen species (ROS) measurement, qPCR and immune-histology studies.

RESULTS: The levels of 25(OH)-D_3 were significantly reduced in obese *vs.* non-obese patients and showed a negative correlation with the amount of H_2O_2 generated by the vascular samples. Acute incubation with 1,25$(OH)_2$-D_3 significantly reduced the amount of ROS in both groups.

CONCLUSIONS: Administration of vitamin D mitigates oxidative stress in human varicose veins and might represent a viable therapeutic option in chronic venous insufficiency.

KEYWORDS: obesity, varicose veins, vitamin D, oxidative stress

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2. PRINCIPLES OF HYPNOTHERAPY APPLIED IN REDUCING ANXIETY AMONG PATIENTS - LITERATURE REVIEW

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UMFST Târgu Mureș

INTRODUCTION*:* Anxiety is associated with almost every medical condition, taking into consideration that every illness causes discomfort and interfere with personal and social life of patients. Hypnotherapy is a promising alternative therapy successfully used for the treatment of anxiety disorders, depression (including major depression), post-traumatic stress disorder, stress management, sleep disorders, smoking cessation, weight management and eating disorders and also for addictions. The aim of this paper is to emphasize the benefits of reducing anxiety among patients using hypnotherapeutic principles, regarding medical outcome.

MATERIALS AND METHODS*:* Using the words ”Hypnotherapy” and ”Anxiety” on PubMed, a number of 128 free full text articles from 2010 until 2020 were found. Using the title criteria, 39 articles were selected and after the abstract criteria, 19 articles were reviewed. Among these 19 atricles that were considered the most relevant for this topic, 3 of them were case reports, 8 were literature reviews and 8 were clinical studies.

RESULTS*:* According to the literature, hypnotherapy was successfully used for treating acute pain, for facilitate delivery and reducing or excluding the need of anesthesia during surgical or dental procedures, but it showed also good results in controlling the symptoms of chronic conditions including chronic pain, inflammatory bowel disease, Parkinson disease and palliative care patients, including pediatric patients. The main beneficial effects of this therapy were improved quality of life, decreased need of medical assistance and increased level of satisfaction regarding medical services among patients.

DISCUSSIONS*:* Hypnosis is a modified state of awareness in which the conscious mind has a diminished activity and the information perceived is integrated by the subconscious mind. This state is used in hypnotherapy to

replace the negative perceptions with positive, pleasant ones, using various techniques like progressive relaxation, verbal suggestions and guided imagery. Although the level of hypnotizability is variable among individuals, studies have shown that patients, when addressing to a medical service, they find themselves in an incomprehensible environment, fact that modify their state of consciousness and make them highly open to accept any message from the environment without any critical judgement. So even untrained in hypnotherapy medical staff can reduce patient's anxiety by applying basic hypnotherapeutical principles.

CONCLUSION*:* Patient anxiety is an important factor regarding the treatment of medical conditions, that increase the level of perceived pain and symptoms. Positive suggestions can help in the healing process and improve the perception of the patient regarding his condition.

KEYWORDS*:* hypnosis, hypnotherapy, anxiety, positive suggestions, subconscious mind.

3. THE EFFECT OF WHEY PROTEIN SUPPLEMENTATION. BCAAS AND CREATINE

Abstract

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OBJECTIVE: We have completed a systematic review to determine whether dietary protein supplementation amplyfies resistance exercise training-caused gains in strength and muscle mass. Furthermore, we explained what effect do whey protein, BCAAs and creatine have in an athlete's body.

DATA SOURCES: A systematic search of PubMed, British Journal of Nutrition and Market Research Report.

INTRODUCTION: Powder protein supplements are gaining attraction among body builders and athletes. Moreover, demand for ready to drink products is increasing among consumers. Whey protein which seems to become more and more popular, is a widely consumed nutrition supplement that is known to enhance the muscle mass and strength. Alongside, there are BCAAs and creatine.

RESULTS: Muscle protein synthesis increases after resistance training, which is further amplified by whey protein, so there are reasons to believe that whey protein is an effective strategy for restoring contractile function after resistance training. There are two principal determinants of adult skeletal muscle: physical activity and nutrient avability. You cannot build or remodel muscle without amino acids. Nutrition ensures transfer and incorporation of amino acids capturated from dietary protein sources to compensate lost muscle protein. However, muscle protein accretion (growth) is physically limited by the inelastic collagen surrounding each muscle fiber (endomysium). It is noticeable that muscle protein synthesis, which is the main cause of muscle hypertrophy, shows a saturable dose-response relationship with protein intake. If daily protein intake is greater than 1,6 g/kg, protein supplementation has no effect in further enhancing muscle mass and strength.

BCAAs are essential aminoacids that can be oxidized in skeletal muscle. For this particular supplement there are two general opinions: it is useful for athletes and increases performance or it has no significant effect. BCAA oxidation is promoted by exercise and represents a good energy source as they represent the first source of amino acids during intense exercise.

Creatine is an extensively researched and well-supported as being one of the most effective supplements available. The intention of creatine supplementation is to increase resting of intramuscular phosphocreatine and free creatine. After creatine supplementation, there were a significant number of athletes that showed increase in lean body mass. Short-term use of creatine is considered safe and without significant adverse effects, although caution should be advised because the number of long-term studies is limited.

CONCLUSION: Dietary protein supplementation enhances modifications in muscle strength and size during prolonged resistance exercise training. Protein intakes at amounts higher than 1,6 g/kg/day with protein supplementation do not further contribute to resistance exercise training-caused gains.

KEYWORDS: muscle, growth, performance, supplement, protein

4. ANIMAL-ASSISTED THERAPY – MAGIC OR MEDICINE?

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Debrecen University

INTRODUCTION: Animal- assisted therapy (AAT), is a therapeutic intervention that involves animals, into the treatment plan. It has been discovered by the American psychologist Boris Levinson, 1960.

Animals have positive effects on humans. The effect of human-animal interaction has been rigorously researched, showing a wide variety of benefits, , under the influence of AAT activities endorphins are released, blood pressure becomes normalizes, the feelings of loneliness and sadness attenuate.

AIM: The aim of this study was to determinate how animals can improve children emotional and physical well-being.

MATERIALS AND METHODS: The participants in this study were 14 children. We using the within groups design. Each participant was evaluated before and after the AAT intervention using objective psychological methods:

- Junior Eysenck Personality Questionnaire (JEPO, Eysenck, 1975), tool for evaluating invidual three major dimensions of personality, that are Extraversion/Introversion, Neroticism and Tough- mindedness)

- Child Behavior Checklist/4-18, (CBCL4-18) a standardized questionnaire, designed to gather information on competencies and problem behaviors of children aged 2 to 3 or 4 to 18 years

- Strength and Difficulty Questionnaire, (SDQ, Goodman, R. 1997) is a brief emotional and behavioural screening questionnaire for children.

RESULTS: Results are analyzed by SPSS Statistics 17.0, Excel-2007. We can conclude that: the stress level reduced, social competence, emotional stability and empathic skills improved.

CONCLUSION: In summary we can report that animals may be used to complement the benefits of traditional therapies.

KEYWORDS: Animal assisted therapy, JEPO, CBCL, SDQ

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Surgery

1. **ENDOMETRIOSIS – A CAUSE OF INFERTILITY?**
2. **A MODERN APPROACH OF VENOUS ULCER – ONE OF THE MOST PREVENTABLE HIGH MORBIDITY COMPLICATIONS OF VENOUS INSUFFICIENCY**
3. **LAPAROSCOPIC APPROACH TO COMMON BILE DUCT LITHIASIS**
4. **VIRTUAL REALITY AND ROBOTICS IN NEUROSURGERY**

1. ENDOMETRIOSIS – A CAUSE OF INFERTILITY?

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INTRODUCTION: Endometriosis represents the abnormal growth of endometrial cells outside the uterus, which is usually implanted on the ovaries, fallopian tubes, intestines and other mucous surfaces in the pelvic cavity. It is one of the main causes of infertility and a common disease in women of reproductive age (between 8% and 33%). Studies show that 6.5% of women are diagnosed with this pathology, but many are asymptomatic, making the exact determination imprecise. In Romania there are approximately half a million patients with endometriosis. The main symptoms are pain and infertility.

The causes of infertility of this disease are: ovarian adhesions (that restrict the release of the egg) or fallopian tube modifications (adhesions can make the passage of the egg more difficult or even form a barrier preventing the fertilization). Other causes include: disturbance of the ovarian cycle, peritoneal liquid disturbances of the fertilization and other factors (inflammation, prostaglandin activity, etc.).

In women with dysmenorrhea, the incidence of endometriosis is 40-60%, and in subfertile women, 20-30%. Symptom severity and diagnosis probability rise with age.

MATERIALS AND METHODS: The mechanisms of infertility are different depending on the severity and localization of the lesions. The marker CA-125 is significantly higher in patients with moderate and severe endometriosis and normal in patients with minimal forms. The positive diagnosis is made through laparoscopy and histopathological examination.

In the obstetrics-gynecology clinic "Bega", of SCJUT, a woman presents with a delay in her menstrual cycle - pregnancy test is positive. On ultrasonography, a right ovarian cyst (6/4 cm) is detected. The patient refuses surgical intervention. During the pregnancy, the patient followed

normal procedure; however she gives birth through caesarian section at 34 weeks - a single fetus. Four weeks after birth, another pregnancy occurs, this time the patient gives birth on time (38-39 weeks). During the surgery, an extension of endometriotic lesions can be seen to the: rectum, omentum, peritoneum, utero-sacral ligaments and posterior region of the wide ligaments. Follow-up of the ovarian cyst has been made using ultrasonography and MRI. Its dimensions during the first trimester have reduced, but not significantly (5/3.5 cm). The pelvic pain has reappeared after birth. CA-125 has been identified as significantly higher in our case.

RESULTS: Currently, there are no known non-invasive investigations that can certify the diagnosis, and laparoscopy remains the main solution. This hardens the precise and early diagnosis of patients. Between the non-invasive investigations and laboratory tests, CA-125 is the marker most often used, however it is normal in patients with minimal and medium forms of endometriosis.

CONCLUSIONS: There are no exact statistics on this disease that can attest to the number of patients with endometriosis, because the method of precisely diagnosing is invasive, costly and usually avoided by patients, if possible. However, laparoscopy and histopathological examination remain the gold standard in this disease. The surgical strategies have been revolutionary in the last years, thus permitting more patients to be diagnosed.

KEYWORDS: endometriosis, infertility, diagnosis.

2. A MODERN APPROACH OF VENOUS ULCER – ONE OF THE MOST PREVENTABLE HIGH MORBIDITY COMPLICATIONS OF VENOUS INSUFFICIENCY

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INTRODUCTION/BACKGROUND: Chronic venous disease is a common pathology. Its complications have important negative repercussions on the quality of a patient's life. Venous ulcer (CEAP clinical classification 5) invariably occurs in the absence of treatment, its management and healing being in many cases complex. This paper presents the surgical measures established in the treatment of venous ulcers, as well as the clinical and paraclinical evolution in those cases.

MATERIALS AND METHODS: A 73-year-old female patient with complex associated pathology (high blood pressure, diabetes mellitus type 2, hypercholesterolemia, obesity) presents chronic venous ulcer on the right leg for approximately one year, unpleasant *sensation* of pain and heaviness in the right leg, local erythema and edema. Laboratory tests reveal increased number of white blood cells (13.590/µl), hyperglycemia (161mg/dl). The patient is admitted for surgical treatment. For several days the wound has been cleaned with betadine. Afterwards, chlorhexidine dressing and compressive bandages have been applied. Surgical intervention and excisional debridement are proceeded, followed by vacuum system installation set on 90mmHg aspiration. The case evolves favorably, no clinical signs of infection and sterile culture, which is why at seven days after the first surgical intervention, it is practiced the grafting of the lesion with the auto skin graft (split-thickness dermal graft), collected from the thigh level, then mounting a vacuum system. After one week, the vacuum system is suppressed and the viable graft can be noticed.

RESULTS: Following the measures in place, the result obtained was optimally considered from a functional, curative and aesthetic point of view. Post-operative mapping of the superficial venous network as well as any pathological changes noticed by Doppler ultrasound are recommended. Furthermore, the interruption of the collaterals (phlebectomies) can be considered as a major recommendation. The experience of the 1st Surgical

Clinic, Emergency County Hospital Pius Brînzeu, Timișoara includes a large number of cases solved by those methods.

CONCLUSIONS: Chronic venous ulcer can be treated with good results through a combination of methods. The suction systems with negative pressure support the granulation of the wound and the graft adhesion, speeding the healing and shortening the hospitalization time which leads to a proper ratio regarding the cost and the efficiency. Even though this new approach brings good results, prevention from this stage of chronic venous disease and right treatment must be clinicians' goal.

KEYWORDS: venous chronic disease, venous ulcer, skin graft, vacuum system.

3. LAPAROSCOPIC APPROACH TO COMMON BILE DUCT LITHIASIS

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INTRODUCTION: The management of choledocal lithiasis, the presence of a gallstone in the common bile duct, has suffered essential changes over the years. While laparoscopic cholecystectomy has become the gold-standard treatment of symptomatic gallstones. Despite the wide variety of examinations and techniques available nowadays, two main open issues remain without a clear answer: how to cost-effectively diagnose CBDS and when they are finally found, how to deal with them. CBDS diagnosis and management has radically changed over the last 30 years, following the dramatic diffusion of imaging, including endoscopic ultrasound (EUS) and magnetic resonance cholangiography (MRC), endoscopy and laparoscopy.

The surgical techniques have noticeably developed when referring to treating the common bile duct lithiasis. Our aim is to present the advantages that the laparoscopic procedure has in treating this disease, compared to the other methods of treatment that seem to be more invasive.

METHODS AND MATERIALS: We performed a literature review to summarize the current information regarding laparoscopy, terapeutic approach to choledocholithiasis and discuss its advantages and limitations. We identified 15 PubMed articles based on the topic published between 2010-2020. This data represents a meta-analysis from medical journals, as well we checked the information in specialized surgery textbooks.

RESULTS: Literature clearly demonstrates the patients that suffer of CBD lithiasis and were treated via laparoscopic surgery benefited from the following advantages: the laparoscopic surgery brings all the advantages of a minimally invasive surgery of the abdominal wall, the postoperative pain is minimal, moreover, the post op recovery is extremely short, the externalization within the hospital being made 24 hours after the

intervention. Additionally, the fast post op recovery reduces the risk of general and, specially, cardio-pulmonary complications.

Due to the fact that this procedure is conducted via a high definition camera that sends the images from the interior abdominal region of the patients' body to some extremely developed displays, the laparoscopic intervention is a very safe choice when surgically treating the choledocolithiasis, any anatomical detail being zoomed in if needed, in order to increase the safety of the medical procedure.

Another strong point the laparoscopic surgery has is the possibility of completely exploring the intraperitoneal area, exploration that can signal if there are any other affections that require surgical treatment.

CONCLUSIONS: Our retrospective study highlights the advantages and limitations of laparoscopic cholecystectomy at the same time comparing it to the others treatments of CBD lithiasis. So, according to analysed data, the technique demonstrates to be very useful presenting no major risks, effective, and having all the advantages of minimally invasive surgery.

KEYWORDS: laparoscopy, minimally invasive treatment, choledocal lithiasis

4. VIRTUAL REALITY AND ROBOTICS IN NEUROSURGERY

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INTRODUCTION: The frontiers of medical technology are always moving forward and posing every day more demanding challenges. Robotic surgery, being the forte of minimally invasive stereo-tactic procedures for many years now, may help. Ongoing advancements and evolutionary developments require substantial evidence to build the consensus about its efficacy in the field of neurosurgery. Main obstacles in obtaining successful results in neurosurgery are incredibly small neural structures and different anatomical limitations. Nowadays, human hand and robotic precision works in symbiosis to provide enhanced results. Stereotaxic robots are an example of advanced electromedical equipment, in which the highest precision mechanics and the latest generation electronics have been merged together to create a fundamental neurosurgeon assistance system. Arms guided by a sophisticated system allows the positioning and execution of very high precision neurosurgical interventions. Robots can work in synchronicity in the field of neurosurgery to combine the advantages from both man and machine into one super precise, dexterous model. Surgical simulations include virtual procedures among visual, audio, tactile and other feedback. This allows young doctors and surgeons to practice procedures in a safe and protected environment.

MATERIALS AND METHODS: The intention was to review the current data about recent interventions and different typologies of robots used in Neurosurgery. Six of the most used ones are being shortly described and a comparison with general surgery was made.

RESULTS: Robots are capable of providing virtual data, superior spatial resolution and geometric accuracy, superior dexterity, faster maneuvering and non-fatigability alongside with steady motion. Simulations allow senior professionals to hone difficult cases before involving into considerable risky procedures. Surgeons who use the robotic system find that for many procedures it increases precision, flexibility and control during the most

difficult operations and allows them to better visualize the field, compared with traditional, frequently old techniques. In neurosurgery, the goal is to perform delicate and complex procedures that may have been difficult or impossible by other means. Generally, robotic surgery makes minimally invasive surgery possible. The benefits of minimally invasive procedures include: fewer complications, such as surgical site infection, less pain and blood loss, quicker recovery, smaller, less noticeable scars.

CONCLUSIONS: To realise the full potential of robots in neurosurgery, an increased effort is required towards compatibility of imaging software and planning software as well as end effectors. The emphasis is on building on past success and maximizing the full potential of surgical robots in the future. The main partners are surgeons, engineers, entrepreneurs and health-care administrators. Acceptance of the robotic medical manipulation will allow neurosurgery to move past its challenges and enter a new sphere of development where robots will help not get ahead of surgeons and together, they can perform better than either can individually. The devices that make possible precise graphic and spatial representations are indispensable to make surgical interventions faster and more effective, to increase safety, to help defeat diseases and to improve the quality of life of patients.

KEYWORDS: Robots, Neurosurgery, Precision, Minimally invasive, Simulation.

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