



MINISTRY OF HEALTH,
LABOUR AND SOCIAL PROTECTION
OF THE REPUBLIC OF MOLDOVA



NICOLAE TESTEMITANU STATE UNIVERSITY OF MEDICINE
AND PHARMACY OF THE REPUBLIC OF MOLDOVA



ASSOCIATION OF MEDICAL
STUDENTS AND RESIDENTS

ABSTRACT BOOK

8th 24-26 SEPTEMBER 2020
International Medical Congress
For Students and Young Doctors



Chisinau
Republic of Moldova





NICOLAE TESTEMITANU STATE UNIVERSITY OF MEDICINE
AND PHARMACY OF THE REPUBLIC OF MOLDOVA



ASSOCIATION OF MEDICAL
STUDENTS AND RESIDENTS



Abstract Book

MedEspera 2020

The 8th International Medical Congress
for Students and Young Doctors

24-26 september



HR EXCELLENCE IN RESEARCH

Chisinau

MedEspera 2020: 8th Intern. Medical Congress for Students and Young Doctors, 2020, Chisinau, Republic of Moldova

Chairman of Editorial Board: *Stanislav Groppa*

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Descrierea CIP a Camerei Naționale a Cărții

"MedEspera 2020", international medical congress (8 ; 2020 ; Chișinău).

MedEspera 2020 : The 8th International Medical Congress for Students and Young Doctors, 24-26 september, Chișinău, Rep. Moldova : Abstract Book / chairman of editorial board: Stanislav Groppa ; organizing committee: Olga Clipii. – Chișinău : S. n., 2020 (F.E.-P. "Tipografia Centrală"). – 436 p.

Antetit.: "Nicolae Testemitanu" State Univ. of Medicine and Pharmacy of the Rep. of Moldova, Assoc. of Medical Students and Residents. – 100 ex.

ISBN 978-9975-151-11-5.

61:378.661(478-25)(082)

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MESSAGE OF THE RECTOR



Dear students and young doctors,

You are welcome to *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova: we always encourage youth in their initiatives. It is our responsibility to inspire them to create, to develop and surpass their own limits. *MedEspera* International Congress for Students and Young Doctors serves as proof of our commitment in this regard. The

Association of Students and Residents in Medicine organizes it biannually. We appreciate them for their inexhaustible force and idealistic desire to execute at higher level.

This year, *Nicolae Testemitanu* SUMPh will host the 8th edition of the Congress, being a special edition in the context of celebrating the 75th Anniversary of our University since its foundation. It is worth to mention that our University holds the logo of *Human Resources Excellence in Research*.

We hope this will be a great opportunity for students and young doctors to exchange ideas and research performance. The number of foreign *MedEspera* participants highlights the fact that medicine has no boundaries. We hope this year won't be an exception and our foreign colleagues will attend the Congress and will be fully satisfied of the obtained significant results and experience.

We wish you all good luck! Don't forget to follow your dreams and work hard to achieve your goals. Take full advantage of this event and feel free to share your experience and learn best practices from famous teachers and your colleagues.

I wholeheartedly hope your impressions of *Nicolae Testemitanu* SUMPh and Moldova will be unforgettable!

Rector

Emil Ceban

MD, PhD, Professor

WELCOME MESSAGE OF THE ORGANIZING COMMITTEE

Dear colleagues and friends,

We have the honor and pleasure to welcome you to *MedEspera* International Congress for Students and Young Doctors. Welcome to *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova! Beside the new experience, this 8th edition of *MedEspera* will bring you the most recent achievements in the fields of medicine, dentistry, pharmacy and public health. We hope you will enjoy the program we've prepared, which includes conferences, workshops, discussions as well as a social program to familiarize you with the hospitality of our country and the beauty of our traditions.

The idea of organizing this Congress sparked among a group of our senior colleagues several years ago. Since the very 1st edition, *MedEspera* became popular among medical students and young doctors from the Republic of Moldova and abroad.

It is our duty to uphold the reputation, popularity and quality of this event. We are fully committed to make everything in our power to continuously increase the quality of this event, and we sincerely wish for you to make the best of it!

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**ABSTRACTS
CLINICAL CASES SECTION**

DEPARTMENT OF HUMAN ANATOMY

1. MULTIPLE ABNORMALITIES OF THE RENAL PEDICLE

Author: **Arina Pogostin**

Scientific adviser: Angela Babuci, MD, Assistant professor, Department of Human Anatomy, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Background. Abnormalities of the renal pedicle appear as a result of embryogenesis disturbances. Supernumerary vessels and topographic variations are explained by persistence of the pro- and mesonephros segmental arteries during late stages of development.

Case report. By routine anatomical dissection of a male cadaver multiple variants of origin, number and topographic relationships of the left renal pedicle were revealed. The architectonics, number and topography of components of the left renal pedicle were atypical. From the abdominal aorta three renal arteries originated. The superior renal artery (SRA) had a diameter of 5 mm, but at a distance of 8 mm after its origin the SRA suddenly narrowed up to 2 mm for a distance of 13 mm, and then it recovered its lumen. Close to the superior pole of the left kidney the SRA bifurcated. The middle renal artery derived from the aorta at 63 mm below the SRA running on the external surface of the kidney and at a distance of 18 mm from the lateral margin of the kidney, it penetrated the renal parenchyma with two branches. Functionally the most significant was the inferior renal artery. It originated from the abdominal aorta at a distance of 80 mm below the SRA and divided into two branches, one of which was twice larger and three times longer. The superior left renal vein drained into the left colic vein, and the inferior one drained into the left common iliac vein. The ureter and renal pelvis with the greater calyces were located in front of the renal veins and arteries.

Conclusions. The left kidney was vascularized by three renal arteries, but the main arterial load was on the inferior renal artery. Double renal veins realized the venous drainage from the left kidney: the superior renal vein drained into the left colic vein, and the inferior one drained into the left common iliac vein.

Key words: kidney, renal pedicle, abnormality, variants

DEPARTMENT OF BIOCHEMISTRY AND CLINICAL BIOCHEMISTRY

2. BIOCHEMICAL MECHANISMS IN NUCLEOTIDE REPAIR

Author: **Sergiu Gavriliuc**

Scientific adviser: Leonid Liși, MD, PhD, University Professor, Department of Biochemistry and Clinical Biochemistry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Background. Nucleotides are stable monomers of nucleic acids. They are required for a wide variety of biological processes and are constantly synthesized in all the cells. As cells proliferate, increased nucleotide synthesis is required for DNA replication and RNA production to support protein synthesis at different stages of the cell cycle, during which these events are regulated at multiple levels. Therefore, the synthesis of previous nucleotides is also strongly regulated at several levels.

Case report. In order to keep the quantity of nucleotides constant, the cell uses two important pathways: 1. novo synthesis 2. nucleotide repair with reuse of metabolic residues from pre-existing nucleotides. However, despite the existence of different repair pathways, most proliferative cells synthesize nucleotides and de novo nucleic acids, mainly from glucose, glutamine and CO₂. This was observed by using C¹³ and N¹⁵ labeled isotopes. Different parts of nucleotides come from different sources of carbon and nitrogen in the cell, and the RNTP (ribo-nucleotide-triphosphate) assembly requires a great amount of energy. Thus, starting from glucose, three equivalents of ATP are required to make activated ribose-5'-phosphoribosyl pyrophosphate (PRPP), which is produced by the reaction between 5'-phosphoribose with ATP, caused by the release of the 5'-AMP group. Pyrimidine rings are first synthesized in the form of uracil from aspartate, CO₂ (or bicarbonate) and glutamine, which require two ATP. Metabolic requirements for nucleotides and their bases can be met either by energy input or by de novo synthesis from precursors with low molecular weight. The ability to save nucleotides in the body alleviates any significant nutritional needs for nucleotides, so purine and pyrimidine bases are not required as part of the diet. The repair pathways are a major source for DNA, RNA and enzyme co-factors synthesis. Inside the body, the main system for de novo nucleotide synthesis, for the renewal and maintenance of intracellular pools, is the liver. After their synthesis in the liver, the nucleotides are dephosphorylated, next partially phosphorylated in nucleobases and ribose-1-phosphate for transport to the blood and subsequently uptake by the other cells. These processes are regulated at transcription level by a set of main transcription factors, but also at the level of the enzyme by allosteric regulation and feedback inhibition. Studies based on labeled isotopes provide important information on nucleotide biosynthesis, such as the preference for endogenously synthesized precursors, such as glycine and aspartate, compared to those provided externally, and how resources are re-allocated based on environmental conditions, particularly pathological conditions such as cancers ("metabolic reprogramming").

Conclusions. Almost all cells in the body are capable of synthesizing de novo nucleotides. The source of these molecules may be nucleic acids of their own tissues and foods, but these sources have only a secondary, auxiliary value.

Key words: nucleotide, repair, denote, labeled isotopes

3. HYPERPARATHYROIDISM IN THE CONTEXT OF MULTIPLE ENDOCRINE NEOPLASTIC SYNDROMES

Author: **Maria Boțoc**

Scientific advisers: Petru Cepoida, MD, PhD, Veronica Cernelev, PhD, University Assistant, Department of Biochemistry and Clinical Biochemistry

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Background. Multiple endocrine neoplastic syndromes (Multiple Endocrine Neoplasia - MEN) are a group of disorders characterized by simultaneous or successive association of hyperplastic or tumoral lesions, usually benign or malignant, usually hypersecretory, at least involving two endocrine glands, without obvious functional interrelations. MEN 1 is one of the three distinct types of MEN that affect the parathyroid glands, endocrine pancreas and anterior pituitary gland. Parathyroid glands are the first and most commonly affected by MEN 1 (95%). The diagnosis can be established before the age of 20 by identifying some suggestive signs – recurrent urinary lithiasis, muscle or bone pain. All patients with MEN should be registered and supervised throughout life, given that the tumors remain asymptomatic for a long time.

Case report. Patient X, age 48, has been suffering for approximately 20 years for kidney stones. Was operated on parathyroid, then had consecutive surgeries on the kidneys, and in 2015 started the treatment with hemodialysis. In the meantime, hyperprolactinemia has been identified, and pituitary adenoma has been described on MRI. For the moment, the Patient X is on a complex pathogenic treatment.

Conclusions. 1. Parathyroid adenoma is commonly found in polyglandular neoplastic syndromes. 2. Hyperparathyroidism once diagnosed, it is necessary to differentiate primary, secondary or tertiary type in order to establish prompt treatment tactics and to prevent complications. 3. The complex approach of the patient with hyperparathyroidism is essential.

Key words: hyperparathyroidism, MEN 1, pituitary adenoma, hemodialysis.

DEPARTMENT OF PEDIATRIC SURGERY, ORTHOPEDICS AND ANESTHESIOLOGY

4. ASSOCIATION OF ULTRASHORT SEGMENT HIRSCHSPRUNG DISEASE WITH A RARE GENETIC PATHOLOGY – TOWNES-BROCKS SYNDROME

Author: **Iulia Princu**

Co-authors: Oleseia Utchina, Andrei Draganel,

Scientific adviser: Gavril Boian, MD, PhD, University Professor, Head of Department of Pediatric Surgery, Orthopedics and Anesthesiology

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Background. In our case we have find an association of two different pathologies - Townes-Brocks syndrome (TBS) and Hirschsprung's disease (HD). TBS is a rare autosomal dominant disease (1/250000 newborns), caused by mutation of the gene SALL1. There is approximately 200 described cases in the special literature. The main symptoms are: malformations of the external ear (by dimensions, form, insertion, presense of preauricular rudimentary tags), anorectal malformations (imperforated anus, anal atresia, anal stenosis), heart and renal malformations, limb's abnormalities (three-articular thumb, syndactyly, overlapping fingers). TBS can be diagnosticated in base of simultaneously presense of major symptoms triad, sometime without genetic research. The Ultrashort Segment HD is a controversial form of aganglionosis wich involves 2-4 cm of distal rectum and anal canal. It is characterized by latent debut, lack of classical radiological interpretation and negative recto-anal reflex by manometry. The treatment of Ultrashort Segment HD is also controversial. Some

authors prefer posterior anal sphincter myectomy, and some prefer excision of the aganglionic segment and pull-through reconstruction.

Case report. Here, we present the case of 1-year-old Moldavian boy born with anal atresia (with fistula in situ), low placed and small external ears, three-articular thumbs and overlapping fingers of the legs. Anoplasty was performed at 2-months-old without complications. Further was installed persistent constipation. Imagistic, functional and histological investigations revealed Ultrashort-Segment HD with left megadolichocolon. We performed abdominoperineal resection of left colon by Swenson-Pellerin with coloanal anastomosis. After 6 months postoperatively symptoms of colonic retention or dyssinergic defecation are absent. A karyotype research demonstrated only a normal male chromosome constitution (46XY) with a dense site ADN gh(+)_{18q}, but molecular gene-testing actually cannot be executed in Moldova, and the TBS was established phenotypically in base of major symptoms triad.

Conclusions. Association of Ultrashort Segment HD with TBS doesn't influence the surgical tactic of HD, but represents an interest in treatment, functional and social rehabilitation and staged correction of concomitant malformations.

Key words: Hirschsprung disease, Townes-Brocks syndrome

5. RADIOLOGICAL AND CLINICAL CONFLICTS IN A CASE OF TRANSPOSITION OF THE GREAT ARTERIES WITH MULTIPLE ASSOCIATED COMORBIDITIES

Author: **Laurențiu Humă**

Scientific adviser: Dr. Mircea Buruian, Academician, University Professor,
George Emil Palade University of Medicine, Pharmacy, Science and Technology of Targu Mures

Background. Transposition of the great arteries is an embryological misplacement of the Aorta and the trunk of the Pulmonary Artery, in which the Aorta rises from the right ventricle, while the pulmonary trunk continues the left ventricle, thus creating two parallel vascular systems. This situation is not compatible with life in the absence of a communication between the two systems (e.g. Ventricular septum and/or atrial septum defect, persistence of the arterial duct etc.) which will allow the mixing of oxygen-rich blood with deoxygenated blood. In order for the patients to survive, this congenital heart disease has to be treated as soon as possible. In some circumstances the surgery can be post-poned by using prostaglandines to keep the arterial duct open. Considering this information, we decided to look upon a case of TGA with multiple comorbidities and evaluate the role of radiologic and ultrasound(US) investigations in decisions regarding the tempos of the multidisciplinary surgical interventions.

Case report. We will present the case of a newborn female, prenatally diagnosed with TGA, who was transferred from another clinic, where an ileostomy was performed, to temporarily treat her inability to feed. She associated a diaphragmal hernia, metabolic uncompensated acidosis, anemia, elevated respiratory rate, fever and decrease of SpO₂. She was treated with PGE₁ prior to the surgical interventions which took place in our clinic. After her admission paraclinics confirmed the TGA and diaphragmal hernia through repeated radiographies, and identified the need of closing the ileostomy and reconstructing the digestive tract, due to the presence of peritonitis seen during ultrasound investigations. The patient has undergone a complex multidisciplinary surgical intervention, with the aim of simultaneously fixing all the cardiac and digestive abnormalities through toracotomy aswell as laparotomy. The decision of

such an intervention was taken upon evaluating the results of imagistic investigations in a multidisciplinary team.

Conclusions. Deciding upon the tempos and complexity of surgical interventions in fragile patients require great team communication and decision making, using all the information available. Thus, radiologic investigations tend to be the centre of these decisions with the amount of information they provide and help guide the surgical team.

Key words: transposition of the great arteries, diaphragmal hernia, ileostomy

6. BOWEL OBSTRUCTION SECONDARY TO ADHESIONS IN CHILDREN: CASE REPORT

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Background. Adherent bowel occlusion is the most common disease and is characterized by the formation, during the postoperative period, of non-physiological fibrotic bridges between the human, small intestine, large intestine, abdominal wall and other intra-abdominal viscera. The development of postoperative peritoneal adhesions is an almost inevitable consequence of abdominal surgery and is a major cause of morbidity and mortality. The incidence of pathology, reported in various studies, is 90-95% after laparotomies and even 97% following pelvic gynecological surgery. Analyzing the specialized literature, it can be concluded that the diagnosis and the medical-surgical treatment is based on the correct use of the diagnostic algorithm, but which must be individualized in each case even in case of association of complications. We retrospectively followed a patient with adhesive bowel occlusion. The given patient posed the problem of diagnosis and later of postoperative evolution.

Case report. The patient, aged 17, was admitted to emergency surgery for abdominal pain, nausea, vomiting with food and ball content, abdominal meteorism. The patient underwent an appendectomy 3 years ago, and then a surgical reintervention: upper median laparotomy, adesiolysis, partial omentotomy, mesenteric lymphotropic therapy, abdominal cavity lavage and drainage related to: Adherent bowel occlusion. The patient is undergoing conservative drug treatment with the administration of anti-adhesive dressings.

Conclusions. Adherent bowel occlusion is a current problem, and the pathophysiological mechanism as well as the means of prevention and treatment require further studies. All patients undergoing classic or laparoscopic abdominal surgery have a high risk of developing postoperative peritoneal adhesions and their complications.

Key words: intestinal occlusion, peritoneal adhesion, adesiolysis.

7. CLINICAL-MORPHOLOGICAL AND TREATMENT ASPECTS IN TRAUMATIC DIAPHRAGMATIC HERNIA IN CHILDREN

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Background. Traumatic diaphragmatic hernia in children is rarely reported, with an incidence ranging from 0.08% to 8%, and the death rate ranges from 16.6% to 33.3%. Diagnostic difficulties are found in 50-70% of cases. Late manifestation of traumatic lesions of the diaphragm is well studied in adults, as opposed to children. In this context we present the following clinical case.

Case report. Patient S., 4 years old, was transferred to our institution from a district hospital with suspicion to a paraesophageal hiatal hernia, but a destructive pulmonary process with pulmonary abscess formation was not excluded. The anamnesis allowed to specify that two weeks before hospitalization the child fell, hitting the chair, the accident was overlooked by the mother. The clinical examination revealed the serious general condition, conditioned by the presence of signs of exicosis, stable hemodynamics. Palpator - painful abdomen all over the surface, predominantly in the epigastric region and in the left hypochondriac region. Laboratory examination revealed anemia and neutrophil leukocytosis. The thoracic and abdominal radiography, performed by emergency in the clinic, showed the transdiaphragmatic positioning of the intestinal handles in the left hemithorax, the diaphragmatic hernia having comparatively larger dimensions. The diagnostic of certainty was established with the help of thoracic CT with dynamic contrast in angiographic regime. Surgery was performed, intraoperatively, a defect of the left hemidiaphragm was detected at the level of fusion of the anterior part of the tendon with the muscular part, through which the intrathoracic hernia omentum, the colon and the small intestine handles. After the organs were repositioned, the integrity of the diaphragm was restored with non-absorbable interrupted sutures and consolidation with a biodegradable acellular biological graft fragment by equine pericardium (Bioteck Heart).

Conclusions. The results of the histological examination indicate that the mechanism of development of the diaphragmatic defect in children may occur as a result of a contusional tissue injury and the subsequent disjunction of the resident hemidiaphragmatic tissue. Therefore, preoperative diagnosis of HDT in young children is quite difficult, with chest angiographic CT with dynamic contrast being an effective method in establishing the diagnosis with certainty. The primary repair, with the application of non-absorbable sutures and the concomitant use of the acellular pericardial graft for consolidation, represents an effective option in the surgical reconstruction of traumatic diaphragmatic defects.

Key words: biologic graft, traumatic diaphragmatic hernia.

8. MEDICAL TREATMENT IN ACUTE MEDIASTINITIS BY PERFORATION OF THE ESOPHAGUS: CLINICAL CASE

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Background. Mediastinitis is the inflammation of the soft tissues of mediastinum. The main causes of mediastinitis are infections caused by heart surgery. Within the iatrogenic etiology the perforation of the esophagus predominates - 85% of cases. The incidence of esophageal perforation is most often due to the inflammatory response of mediators from the stomach, pleura and adjacent tissues. Mortality is due to acute mediastinitis, pneumonia, empyema, polymicrobial sepsis and MODS (Multiple Organ Dysfunction Syndrome). The treatment of

acute mediastinitis by perforation of the esophagus imposes the diagnostic problem and still arouses numerous discussions regarding the treatment.

Case report. Case report: The patient, aged 1.5 months, with no pathological history, presents within the framework of the National Scientific-Practical Center Pediatric Surgery 'Natalia Gheorgiu' with accusations of dysphagia, with temperature 39 °C. Objectively observed symptoms: dyspnea, pallor, tachycardia, slight bulging in the cervical, suprasternal and supraclavicular pits. The presence of subcutaneous emphysema was a determining factor for the chest radiograph, in which there was an enlargement of the shadow of the upper mediastinum. Based on the clinical examination, the etiological factor was not confirmed, but ingestion of a foreign body was not excluded, and based on the imaging examination the suspicion of acute mediastinitis by esophageal perforation was determined. Esophagoscopy indicated the presence in the upper third of the esophagus of an ulceration surrounded by edema and hyperemia. The first therapeutic gesture was the introduction of a naso-gastric feeding probe, the introduction of broad-spectrum antibiotic therapy, hydro-electrolyte rebalancing, and analgesic therapy. Computer tomography with angiography confirmed the presence of esophageal perforation and mediastinal infiltration. The second medical gesture was the opening and the suprasternal drainage of the anterior mediastinum, the drainage with sleeve blade. Therapeutic attitude was conservative and antibiotic therapy was continued. Patient monitoring during treatment was favorable with the relapse of fever, pain, dyspnea and improvement of the general condition. After 1 month of conservative treatment was performed the esogastric transit control with radiopaque substance (Gastrofarm). This procedure does not highlight the contrast substance outside the esophagus. In this clinical case, we combined a conservative treatment and a surgical treatment with the opening of the previous mediastinum. There was no major surgery despite the fact that the mediastinal syndrome was manifest. The patient presented good results as well as at a distance.

Conclusions. Conclusions. Suspicion of perforation of the esophagus requires emergency hospitalization and complete investigation of the esophagus and mediastinum under strict supervision. Indication for drug or surgical therapy will be required on a case-by-case basis, depending on the size of the efficacy, the short time from perforation, the association of neighborhood lesions and the presence of sepsis.

Key words: Esophagus. Mediastinitis. Diagnostics. Treatment. MODS Syndrome.

9. CONGENITAL DUODENAL DISORDERS IN CHILDREN

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Background. Congenital duodenal disorders are relatively common diseases for children. There are 1: 500; 1: 1000 cases of live newborns. They represent a congenital defect of rotation and fixation of the duodenum produced at the moment of rotation of the primitive intestine. The most common pathology is diagnosed in older children or adults. Most of these disorders do not have a clear etiology and pathogenesis. The lack of specific clinical signs and symptoms at early clinical-evolutionary stages presents a difficulty in establishing a diagnosis. Treatment is controversial, especially for congenital forms. Evolutionarily the first signs are repeated vomiting, abdominal pain conditioned by the evacuatory disorders of the stomach and duodenum as a result of arterio-mesenteric compression of the duodenum, duodenal-jejunal

angle and other inflammatory processes that deform both the duodenum and the jejunum. The most informative diagnostic method is standard abdominal radiography supplemented by contrast radiography, followed by abdominal ultrasound, digestive tract scintigraphy, MRI.

Case report. We present the case of a patient operated for duodenum malformation. Patient 7 years old, male hospitalized urgently in the emergency surgery department, presented with diffuse abdominal pain, repeated vomiting with food + ball content. According to the information given by mother, the baby is practically sick from birth. The patient repeatedly was treated at the gastrologist but without improvement of the general condition. The objective examination shows that the abdomen is painful to palpate in the epigastric region, but without muscular defense. Ultrasound-moderate abdominal meteorism. The abdominal x-ray shows the hydroaerial levels in the stomach, the left flank. Hematology shows slight anemia, leukocytes 8000, without other biochemical changes. At endoscopic examination (FEGDS), there was total duodenal-gastro-esophageal reflux, gastroduodenitis. Gastrointestinal transit with contrast substance: macrogastria, slowed discharge from the stomach at 30 minutes, 3 and 9 hours. With the diagnosis of duodenal malrotation, the patient underwent surgical treatment. Intraoperative, multiple embryonic brides have been diagnosed, in which is Ladd, Jakson, common mesh. The operative and postoperative period without any particularities, without any secondary modifications.

Conclusions. In duodenal disorders, surgical treatment must be supplemented by the complex drug, including anti-adherence to eliminate inflammatory processes and intestinal occlusive complications.

Key words: Congenital malrotation, duodenum, treatment.

10. THE FUNCTIONAL RECOVERY OF THE NEWLY FORMED ANORECTAL APPARATUS IN THE HIGH FORM OF ANAL ATRESIA IN CHILDREN

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Background. Physiologically, the anorectal switching device ensures the retention of the gas, liquid and solid content in different positions of the body, including during physical exertion, sneezing and coughing. The retention occurs due to the interaction of the rectum receiving apparatus, the nervous system, the smooth muscle of the locking device and the walls of the rectum. Under the influence of a number of pathological factors, the functional capacity of the unformed rectal apparatus is substantially compromised.

Case report. In the following we present the clinical case of a patient, who was diagnosed with ARM (anorectal malformation) - high form of ano-rectal atresia, without associated fistula, with sacrococcygeal agenesis. At 72 hours after birth, after a preoperative preparation, was performed descendostoma with separate ends after A. Pena. At age of 3 months, abdominoperineal plastic reconstructive operation was performed, with neo-anus and neo-rectum formation, anterior and posterior levatoroplasty (puborectal strap formation), mAES sphincteroplasty (m. External anal sphincter). At age of 7 months, stoma was closed and the intestinal continuity was restored. The stage investigations indicate a satisfactory postoperative

result, with the centered anal sphincter, the elastic anal ring, without stenosis, and maintaining muscle tonus. At the same time, the child present episodes of overflow encopresis and colostasis on the background of the dysmotility, caused by the caudal osteoneurogenic defect, with affecting of spinal nerve centers. Electrosphincterometry determines the bioelectric activity of the external anal sphincter muscle of the hypotone type, without signs of denervation. The anal canal profilometry at rest denotes a decrease of anal basal pressure. Profilometry in contraction, with vectorial projection of mAES denotes a symmetrical functional result in all quadrants, which shows that reconstructive proctoplasty has reached its goal in anatomical restoration of the defect, but the restoration of its function requires rehabilitation and individually tailored specialized stimulation treatment. During the time patient needed to dilate newly formed anal hole and canal, physio-kinetotherapeutic treatment, with balloon autotraining, biofeedback therapy, ultrasonotherapy, perianal and sphincterian electrostimulation.

Conclusions. High form ano-rectal atresia can be corrected by reconstructive surgery, but once the anatomical area is restored it needs to be "learned" to function according to normal physiology, this being possible through prolonged functional rehabilitation.

Key words: ano-rectal atresia, rehabilitation.

DEPARTMENT OF SURGERY NO.1 *NICOLAE ANESTIADI*

11. RARELY COMMON TYPE IV PARAESOPHAGEAL HERNIAS IN PATIENTS WITH CONCOMITANT DISEASES: A CASE REPORT

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Co-author: Dagnija Salmaņa, Alise Emma Čakārne

Scientific adviser: Dr. Zane Straume, Riga Stradins University, Latvia

Background. In different literature sources paraesophageal hernias (PEH) comprises from 5% to 10% of all hiatal hernias (HH). Symptoms are wide ranging and patients with PEHs are often labeled as asymptomatic or minimally symptomatic. Higher mortality rates are related to type III or IV hernias in elder patients with concomitant diseases. Thereby diagnostic of PEH can be challenging with high risk of reduced quality of life and fatal complications due to late onset diagnosis.

Case report. A 69 years old woman was diagnosed with schizophrenia in 2006 and in the past years has not taken any prescribed medication. Due to lack of eating and talking for 2 weeks, on 5th December 2019 she was hospitalized with primary diagnose - acute cerebral ischemia. A head CT scan revealed only bilateral mastoiditis. Chest x-ray showed type IV PEH. On 6th December 2019 chest CT scan showed wide retrocardiac HH with gastric inflammation in hernial sac and compromised right lower pulmonary lobe. After a thorough evaluation and physical examination, indications for acute operative treatment were not found. Patient was stabilized and started to eat and drink, although refused to take any further diagnostic tests. After repeated consultations with different specialists, a decision was made to compensate psychiatric condition followed by elective surgical PEH treatment. Diagnostics of PEH was delayed due to complicated background of concomitant diseases.

Conclusion. Not all PEHs presents symptomatic. Asymptomatic type IV PEH diagnostics may be challenging. This case report presents rarely common type IV PEH in patient with concomitant diseases which demands multidisciplinary approach. The major issue in clinical decision-making in PEH concerns the assessment of symptoms, where late onset diagnosis may lead to reduced quality of life and fatal complications.

Key words: Hiatal hernia, paraesophageal hernia, case report

12. LAPAROSCOPIC INGUINO-SCROTAL HERNIA REPAIR COMBINED WITH CLASSIC HERNIA SAC REMOVAL

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Background. The most effective surgical technique in the pathology of inguinal hernia repair is unknown. The standard method for inguinal hernia repair had changed little over the time until the introduction of synthetic mesh. This mesh can be placed by either using an open approach or by using a minimal access laparoscopic technique. In the inguinal hernia treatment the laparoscopic approach has clear advantages, including less acute and chronic postoperative pain, smaller incisions, or earlier return to work.

Case report. 36 year old, male patient without any significant past medical or past surgical history, developed a giant inguino-scrotal hernia, whom we treated using a laparoscopic approach combined with open sac removal with the incision on the scrotum. The mesh was placed preperitoneal following the transabdominal preperitoneal procedure (TAPP). Due to the size of the hernia sac and difficult laparoscopic dissection, we made an incision on the scrotum and we practiced a transscrotal excision of the remaining sac. During the early postoperative period, intensive care treatment was not necessary and no complications were registered. The patient was discharged on postoperative day 3 in an excellent condition without any accusations. After a follow-up of 1 month neither hernia recurrence, nor chronic groin pain, nor sexual disorder were recorded.

Conclusions. Different approaches are possible. Open inguinal approach is commonly used in case of giant inguino-scrotal hernias but laparoscopic approach is not impossible. The transscrotal excision of the sac can prevent the formation of hydrocele and the technique can serve the benefits of the laparoscopic treatment in esthetic point of view.

Key words: inguino-scrotal hernia, transscrotal excision, laparoscopic hernia

13. POSTTRAUMATIC SPLENIC PSEUDOCYST

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Background. Posttraumatic splenic pseudocyst is a rare complication of splenic trauma. In the specialized anglo-saxon literature, the unique cases of formation of the posttraumatic splenic pseudocyst are described.

Case report. The 65-year-old female patient is admitted to the Emergency Medicine Institute of Chisinau, the Department of Surgery no.1, presenting abdominal pain in the left hypochondrium with ascending irradiation. From her personal history we note: 4 months ago she suffered a trauma by falling down in the mountains, falling from her own height on a stone

bench. At the primary consult, she was examined clinically and paraclinically, the home patient monitoring was prescribed. For 3 months the patient undergoes an imaging examination (USG, Angio-CT), but without establishing a definitive treatment behavior. At the onset of symptoms, she is hospitalized and repeatedly undergoes a laboratory and imaging examination.

Results. Imaging investigations indicated a giant posttraumatic splenic pseudocyst, located on the diaphragmatic surface of the spleen, with dimensions 141x90x118mm and volume ~ 750ml, with hyperechogenic, fibrinous, polymorphous, floating elements, the biological picture is not relevant. Laparoscopic surgery - pericystectomy with spleen preservation was performed. Postoperative evolution was favorable.

Conclusions. The posttraumatic pseudocyst may be a consequence of the nonoperative attitude of the traumatic spleen injuries, its evolution requiring careful clinical and imaging monitoring in the dynamic. Laparoscopic surgical resolution presents a safe solution, as an alternative for posttraumatic splenic pseudocysts, the spleen preservation remaining the main objective of the treatment.

Key words: abdominal trauma, posttraumatic splenic pseudocyst, diagnosis, treatment

DEPARTMENT OF SURGERY NO.5

14. TOXIC GOITER ASSOCIATED WITH CARCINOMA

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Background. Toxic goiter describes the goiter that is associated with hyperthyroidism (hyperproduction of thyroid hormones) which relates to diffuse toxic goiter (Grave's disease) and toxic multinodular goiter. The main signs of hyperthyroidism are: unintentional weight loss, tachycardia, palpitations, tremor, nervousness, anxiety, irritability, increased sensitivity to heat, fatigue. Recent studies suggest a higher risk of cancer (10-20%) in toxic goiter that increase the concern about the diagnosis and treatment of these patients.

Case report. A 38 years old male patient was admitted to Department of general surgery with complaints of globe sensation in the neck, presence of a lump in the anterior cervical region, trembling, palpitations, weight loss (≈ 25 kg in 3 months), fatigue and general weakness which appeared 5 years ago and limited patient's daily activities. The presumptive diagnosis was toxic diffuse goiter IV degree, thyrotoxicosis grave form, thyrotoxic heart disease and ophthalmopathy class III. He followed multiple treatments at the endocrinologist, but the patient's state did not improve afterward. Hereditary background registered that his mother had hemithyroidectomy. Clinical examination: a lump in the anterior cervical region with tenderness and pain at the palpation, exophthalmia and tachycardia (100 beats per minute). Laboratory data: T3 \uparrow - 12,28 nmol/L, T4 \uparrow - 264,67 nmol/L, TSH \downarrow - 0,001uIU/mL, Calcitonin \uparrow - 52 pg/mL. The ultrasound revealed hypoechogenicity of the thyroid and its dishomogeneous structure, increased vascularization of the thyroid tissue "thyroid inferno", regional lymph nodes of normal size. After five days of preoperative medication with antithyroid agents, beta-blockers and desensitizing drugs the patient underwent surgical intervention. Under general anaesthesia it was performed total thyroidectomy according to the result of extemporaneous

hystological investigation of right lobe – follicular-pappilar carcinoma. Definitive hystological investigation confirmed follicular-pappilar multinodular carcinoma of the thyroid. The postoperative period evolved favorably with the patient`s recovery and his discharge on the sixth postoperative day without any particularities.

Conclusions. Younger age, male sex and hyperthyroidism are associated with higher risk of thyroid cancer. The patients with toxic goiter must be carefully evaluated regarding risk factors, history, and clinically suspicious signs of malignancy. Rather than antithyroid therapy, surgery is the treatment of choice in toxic goiter, furthermore in toxic goiter associated with thyroid cancer.

Key words: toxic goiter, thyroidectomy, carcinoma

DEPARTMENT OF SURGERY AND SEMIOLOGY NO.3

15. JEJUNAL TUMOR COMPLICATED BY PERFORATION: CLINICAL CASE

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Background. The tumors of the small intestine are rare; they represent only 1-5% of the total gastrointestinal neoplasms and have a large histopathological variety. In the early stages they have modest and non-specific symptoms. Despite the recent technological advances, these pathological conditions remain the “poor relative” of imaging explorations, which are often inconclusive. As a consequence, the diagnosis is usually late, in the stage of severe evolutionary complications, such as a bleeding, obstruction or, less often, perforation.

Case report. Patient P, a 78-year-old woman, was admitted urgently at the Department of General Surgery, Municipal Hospital nr.1, with diffuse abdominal pain that appeared suddenly, nausea and marked weakness. The abdominal pain had appeared about 6 hours ago, initially located periumbilical, followed by a tendency to extend throughout the whole abdomen. Patient had the 3-month history of diffuse non-Hodgkin's lymphoma with the big cell “B”. Physical examination revealed a supple abdomen, which does not participate in respiratory movements, spontaneous diffuse pain and muscular tenderness during palpation, with the maximum intensity around umbilicus. Laboratory tests had shown a normal range of leukocytes – $8.2 \times 10^9/\text{mm}^3$, but with marked shift to the left (immature forms – 31%). Chest and abdominal radiograph were non-diagnostic. She underwent emergency surgery, started by diagnostic laparoscopy, and followed by conversion to median laparotomy, due to diffuse fibrinous peritonitis, probably caused by perforation of hollow viscus. Intraoperatively the induration and perforation of jejunum with a diameter of 0.8 cm with leakage of intestinal contents into peritoneal cavity was found. Segmental resection of the perforated jejunum with enteroenterostomy with lavage and drainage of the peritoneal cavity was performed. Initial postoperative diagnosis was as follows: Idiopathic perforation of the jejunum complicated by diffuse serous-fibrinous peritonitis. However, postoperative histopathological study of resected specimen suggested the malignant tumor (appearance similar to neuroendocrine carcinoma or a form of extranodal lymphoma). Uneventful postoperative evolution.

Conclusions. The tumors of the small intestine are rare and have a modest and non-specific symptomatology, as well as obscure imaging presentation. Usually they are diagnosed as accidental intraoperative findings, or in advanced stages of disease, when acute complications occur.

Key words: tumors, small intestine, perforation, diagnosis.

16. RARE COMPLICATION OF SURGICAL INTERVENTION FOR ACUTE LIMB ISCHEMIA: A CASE REPORT

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Background. Complications of balloon catheter embolectomy for acute arterial occlusion are extremely rare and there is a lack of clear recommendations for its management. This report describes a case of peroneal artery (PA) pseudoaneurysm that developed after lower limb thromboembolectomy using Fogarty balloon catheter and was successfully treated by transluminal coil embolization.

Case report. A 84-year-old female patient presented to the emergency department 5 hours after sudden onset of pain in the right lower extremity. She had a known history chronic atrial fibrillation, being on ongoing treatment with warfarin. Clinical examination discovered absent popliteal and plantar pulses and typical signs of acute limb ischemia. The hand-held Doppler revealed inaudible arterial and audible venous signals at the level of the right foot. Under spinal anesthesia the right common femoral artery was dissected and a 4F Fogarty embolectomy catheter was easily advanced down to the tibial arteries. The embolectomy was performed successfully with recovering of plantar pulses postoperatively. Four hours later clinical manifestations of the compartment syndrome were observed and “2-incision 4-compartments” fasciotomy was performed. Prolonged bleeding from fasciotomy wounds was noted after surgery, considered being caused by systemic heparinization. After transfusion of 3 units of red blood cells, one litter of plasma and several reapplications of bandage bleeding was controlled. After 3 days the fasciotomy wounds were sutured. Patient was discharged at 5-th postoperative day, anticoagulated with 20 mg of rivaroxaban. Eighteen days after discharge, she returned to the hospital with complaints to severe, permanent pain in right leg. Clinical examination noted extensive pulsation of the right calf with audible systolic bruit. Duplex ultrasound suggested a large pseudoaneurysm of the PA. Digital subtraction angiography confirmed a 55 mm large sacular pseudoaneurysm of the PA and patent tibial run-off. A microcatheter (Progreat®, Terumo) was percutaneously inserted into the right PA via ipsilateral antegrade femoral approach. Two detachable coils (Azur®, Terumo) were deployed distally to the aneurysm and 5 coils were released in the proximal PA and aneurysm sac. The complete occlusion of pseudoaneurysm was achieved. Postoperatively patient becomes symptom free and ultrasound confirmed absence of flow in pseudoaneurysm.

Conclusions. Apart from the rarity of iatrogenic pseudoaneurysm of PA, this case highlights the risk of severe complications associated with relative simple procedure of balloon catheter

embolectomy. Vascular imaging should be performed if patient demonstrates unusual postoperative evolution.

Key words: balloon catheter embolectomy, peroneal artery pseudoaneurysm, coil embolization

17. LAPAROSCOPIC ANTI-REFLUX SURGERY IN A PATIENT WITH SITUS INVERSUS TOTALIS

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Background. Situs inversus totalis (SIT) is a rare congenital anatomical variant, characterized by the opposite arrangement of abdominal and thoracic organs. Open and laparoscopic surgical procedures in patients with SIT can create additional difficulties related to unusual anatomy.

Case report. In October 2011 in Department of General Surgery, Chisinau Municipal Hospital Nr.1, was admitted a woman 53 years, who knew about the presence of SIT. She is considered ill for 3 years, complaining heartburn, regurgitation, frequent nocturnal cough. Medical therapy eliminates symptoms incomplete and only for a short time. Endoscopic examination detected reflux esophagitis, grade III by Savary-Miller classification, opened cardia and a 2.5 cm sliding hiatal hernia. According 24-hour pH-metry, De Meester index was 49.93 (normal < 14.72). Laparoscopic Nissen fundoplication and posterior crural closure was performed. Five trocars were placed in mirror-like sites compared to normal anatomical position. The surgery lasted for 150 minutes. Postoperative period was uneventful, patient discharged at the seventh day, after radiological control. Permeability of fundoplication area for contrast material was satisfactory, dysphagia was not observed. On examination after two months, the complete disappearance of symptoms and absence of esophagitis at endoscopy was found.

Conclusions. Laparoscopic Nissen fundoplication is a standard method of surgical correction for symptomatic refractory gastro-oesophageal reflux and hiatal hernia. Technical difficulties caused by unusual anatomy in SI are not impassable and do not interfere the successful execution of surgical procedure.

Key words: situs inversus totalis, gastro-oesophageal reflux, laparoscopic anti-reflux surgery

DEPARTMENT OF DERMATOVENEROLOGY

18. ACNE FULMINANS INDUCED BY ISOTRETINOIN: CASE REPORT

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Background. Oral isotretinoin, isomer of retinoic acid, has been used in the United States for the treatment of acne for >30 years, approved by the FDA for the treatment of severe

recalcitrant AV. It is recommended for the treatment of severe nodular acne, initiated at a starting dose 0.5 mg/kg/day for the first month, and then increased to 1.0 mg/kg/day thereafter as tolerated by the patient for dosing duration of 15-20 weeks. A lower relapse rate was seen for treatment with cumulative dose of ≥ 120 mg/kg. Side effects are hypervitaminosis A with mucocutaneous, musculoskeletal and ophthalmic systems involvement. Acne Fulminans (AF), the most severe form of acne, with an incidence of less than 1% of total acne cases, is commonly associated with fever, polyarthralgia and myopathy. Adolescent boys are the most susceptible group of patients. It is suspected that AF may be induced by low doses of isotretinoin. Treatment of AF is controversial, as there is no standard therapy. The use of corticotherapy to control AF is acknowledged, associated or not with low doses of oral isotretinoin.

Case report. A 16-year-old boy from Chisinau, Republic of Moldova, presented to the Hospital of Dermatology and Communicable Diseases with skin lesions on face and back. The first symptoms appeared one year before, including comedones, inflammatory papulo-pustules on forehead. The patient was diagnosed with Acne vulgaris, papulo-pustular form. He received the treatment with antibiotic for 4 weeks with no improvement, followed by Isotretinoin (Roaccutane) 0,4 mg/kg, associated with another antibiotic during 6 weeks. During treatment initial papulo-pustules transformed into abscesses with fever and arthralgia, the reason he was hospitalized with Acne fulminans (nodular-cystic form). Status localis: extensive red nodules greater than 5 mm in diameter on the face and upper thorax, with cyanotic undertone topped with pustules, solitary scars, oily skin, closed and open comedones. The history taking revealed a hereditary background of an acne in his grandmother. The patient was treated with antibiotics and on hospital release was advised with an early introduction of prednisone at a dose 0,5-1,0 mg/kg/day for 6 weeks, slowly decreasing later on and oral isotretinoin 0,5 mg/kg/day. By time, the acne reversed to a papulo-pustular and later to a comedonal form.

Conclusions. Using isotretinoin to treat AV has many benefits, despite the possibility of developing AF with cutaneous and systemic side effects. Clinicians should be aware of the risk of this complication to make the diagnosis and provide appropriate care, especially in young men, and prescribe treatment with antibiotics, steroids and suitable isotretinoin dosing.

Key words: isotretinoin; acne fulminans, nodular-cystic form.

19. OZONE THERAPY IN THE TREATMENT OF AN ACNE VULGARIS

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Background. Acne vulgaris is the formation of comedones, papules, pustules, nodules, and cysts as a result of obstruction and inflammation of pilosebaceous units (hair follicles and their accompanying sebaceous gland). This disease may be chronic with relapses.

Case report. I have evaluated the method of ozone therapy on the patient with acne vulgaris diagnosis. Such patient had been treated traditionally with insignificant results. The schedule of visits and possible combinations at treatment were discussed with the parents of the patients (5 teens at the age 12-16). Basic course of treatment consisted of 10 procedures twice a week. Each procedure included local intradermal face injections {15 mg/ml} and droppers with ozone

{6mg/ml}. The results became obvious after 4 procedures. The old elements were resorbed and new ones did not reappear. Remarkable aesthetic success was achieved after completing the full course. The amount of relapses were cut down.

Conclusions. Taking account side effects of antibiotics, retinoid and hormonal drugs at the early age, it is necessary to think over the alternative methods of treatment witch one is ozone therapy. Ozone therapy is one of the best therapies easily accepted by patients leading to improve their individual and social life.

Key words: acne, ozone therapy

DEPARTMENT OF HUMAN PHYSIOLOGY AND BIOPHYSICS

20. AORTIC VALVULOPATHY IN OCHRONOSIS

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Background. Ochronosis (alkaptonuria) is a very rare metabolic disease. This pathology has an autosomal recessive transmission and is manifested by the progressive and irreversible impairment of the connective tissue. Alkaptonuria occurs as a result of the innate defect of tyrosine metabolism due to the homogentisic acid oxidase deficiency (enzymopathy), which causes the accumulation of homogentisic acid in the collagen structures of the body. Clinical manifestations of alkaptonuria are homogentisic aciduria, specific staining of conjunctival structures (ochronosis) and arthropathy of large joints. Cardiovascular disorders involving the aortic, mitral valve and coronary arteries in alkaptonuria are less common, and their incidence remains unclear.

Case report. In this clinical report, we present the case of a 57-year-old female, with a history of progressive blue pigmentation of the integuments, sclera and auricular cartilages, as well as hyperchromic urine, which the patient reports having it since childhood. Four years ago, the patient had total bilateral hip arthroplasty, and at the moment, presents with clinical signs of severe aortic stenosis and ischemic cardiomyopathy.

Conclusions. We will refer to the etiology, pathogenesis, diagnosis and possibilities of treatment during ochronosis discussion. In particular, we will describe the cardiac conditions detected in this case, the intraoperative findings and the results of the surgical treatment performed.

Key words: Alkaptonuria, autosomal recessive disease, blue pigmentation, aortic valvulopathy

DEPARTMENT OF PATHOPHYSIOLOGY AND CLINICAL PATHOPHYSIOLOGY

21. NOVEL THERAPEUTICS IN THE TREATMENT OF SYSTEMIC LUPUS ERYTHEMATOSUS

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Background. Systemic lupus erythematosus (SLE) is a multi-organ autoimmune disease characterized by loss of immunological tolerance, the system that normally protects self components from attack by its own immune system. The current treatment approach includes antimalarial drugs, steroidal and nonsteroidal anti-inflammatory agents, and immunosuppressive drugs, including cyclophosphamide, azathioprine, mycophenolic acid, and methotrexate. Given the large body of evidence implicating abnormalities in the B cell compartment in SLE, there has been a particular focus on developing interventions that target B cells by multiple mechanisms. T cells play a pivotal role in B-cell maturation, differentiation, antibody production, and class switching. New biological T-cell therapies, including cytokine production modulation and T-cell-mediated effects on B cells, represent a new therapeutic strategy for patients with SLE.

Case report. We report a case of a female patient A, 39 y.o., admitted to Republican Clinical Hospital in february 2020. For this admittance she presented, with mild joint pain, oral ulcers and mild constitutional signs. She is known with SLE since the age of 26 (presenting with photosensitivity, arthritis, oral ulcers). Therapy with prednisolone 0.5mg/kg was started at the onset of disease, glucocorticoids being the mainstream treatment for SLE all worldwide, the disease was controlled and the patient remained on a stable maintenance dose of 10 mg/day for 2 years until the pregnancy. During pregnancy the disease was controlled with maintenance dose of prednisolone and hydroxychloroquine. Shortly after giving birth the patient developed kidney involvement with mild proteinuria up to 1g/24 hours, and hematologic anomalies with anemia, leukopenia and thrombocytopenia, diffuse alopecia, arthritis, livedo reticularis. Considering the reproductive age of the patient, it was decided to start mycophenolate mofetil (and not cyclophosphamide) initially 500mg with a gradual increase to 2 g/24 hours. Presently the patient is receiving mycophenolate mofetil 500mg tid, hydroxychloroquine 400mg od, methylprednisolone 8mg od. The lab tests upon this admittance showed preserved kidney function, only traces of protein in urine, and normal hematology.

Conclusions. Despite modern emerging biologic therapies of SLE the control of disease and preserving kidney functions may be a tricky task. The prompt choice of both efficient and safe therapy allowed for the long-term control of disease as well as preserve kidney function.

Key words: systemic lupus erythematosus, mycophenolate mofetil, biologic therapies

DEPARTMENT OF MOLECULAR BIOLOGY AND HUMAN GENETICS

22. GENETIC ASPECTS OF THE HUNTINGTON DISEASE

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Background. Huntington disease (HD) is an incurable, adult-onset, autosomal dominant inherited disorder associated with cell loss within a specific subset of neurons in the basal ganglia and cortex. HD is named after George Huntington, the physician who described it as hereditary chorea in 1872. Characteristic features of HD include involuntary movements, dementia, and behavioral changes.

Case report. Purpose and objectives: This study focuses on the variability of the HTT gene expression and its correlation with the onset of the disease. It also outlines the genetic aspects of the disease: types of inheritance, anticipation and the frequency of new mutations in the population. Etiology: The selective neuronal dysfunction and subsequent loss of neurons in the striatum, cerebral cortex, and other parts of the brain can explain the clinical picture seen in cases of HD. Several mechanisms of neuronal cell death have been proposed for HD, including excitotoxicity, oxidative stress, impaired energy metabolism, and apoptosis. Treatment: In a study published recently in the *New England Journal of Medicine*, researchers from UBC and their colleagues have demonstrated for the first time that the drug IONIS-HTTRX (now known as RO7234292) successfully lowered the levels of the mutant huntingtin protein - the toxic protein that causes Huntington disease -- in the central nervous system of patients. The treatment is designed to silence the gene. On the trial, 46 patients had the drug injected into cerebrospinal fluid. The first in-human trial showed the drug was safe, well tolerated by patients and crucially reduced the levels of huntingtin in the brain. Experts say it could be the biggest breakthrough in neurodegenerative diseases for 50 years.

Conclusion. Taking into consideration the above description of the new trial treatment of the disease, the studies made in this field could be crucial for the next generations.

Key words: Huntington's disease, anticipation, penetration, treatment, mutation

23. RECURRENT AORTIC DISSECTION: A PECULIAR COMPLICATION OF MARFAN SYNDROME

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Background. Marfan syndrome (MFS) is an autosomal dominant disorder caused by a mutation in FBN1 gene which involves abnormal connective tissue. MFS affects different parts of the body such as bones, joints and eyes, but the most serious complication involves cardiovascular system. Acute aortic dissection (AD) is a life-threatening condition caused by a tear in the intimal layer of the aorta or bleeding within the aortic wall, resulting in the separation of the layers of the aortic wall. Even though AD is a characteristic complication of the MFS, recurrent aortic dissection (RAD) is a rare phenomenon where MFS is a strong independent

risk factor. As many as 15% of aortic dissections are painless and often the signs on presentation are subtle and easily overlooked, RAD require a multidisciplinary approach and a complex treatment strategy.

Case report. We present the case of a 47-year old female with a history of MFS since 1976, admitted for retrosternal chest pain worsening with activity, associated with shortness of breath and radiation of the pain over the abdominal area, for over a month. Her pathological background included: aortic dissection (ascending and descending thoracic aorta) in 2005, dilated cardiomyopathy, stage 3 hypertension, class IV NYHA chronic heart failure and superior and inferior vena cava thrombosis. The transthoracic echocardiography revealed an intimal flap and two lumina were visualized in the thoracic aorta under the origin of the left subclavian artery (LSA), bicuspid valve with severe aortic regurgitation, tricuspid insufficiency and a left atrial appendage thrombus. The thoraco-abdominopelvic CT has exposed an aortic dissection involving both the ascending and the descending aorta (Stanford A/DeBakey I). Under both medical and surgical treatment consisting in valvuloplasty and angioplasty the patient evolution was improving.

Conclusions. RAD remains a challenging entity regarding both the diagnosis and management, but its incidence at patients with MFS may be reduced by regular clinical examination, screening and by imaging at the time of diagnosis and during follow-up.

Key words: Marfan syndrome, recurrent aortic dissection

24. A RARE CAUSE OF EPISTAXIS: OSLER–WEBER–RENDU DISEASE

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Background. Rendu-Osler disease is a rare genetic disease, with suggestive clinical manifestations: recurrent epistaxis, telangiectasias and visceral vascular abnormalities.

Case report. A 40-year-old patient presents to the emergency room for asthenia, dyspnea, recurrent epistaxis and headache. Patient's history revealed that her mother and aunt died from a liver disease and the two also presented epistaxis. At the physical examination, pallor, discrete edemas, tachycardia and systolic murmur were noticed. Biologically, there was an iron deficiency anemia. The ENT examination revealed a vegetative nasal septum formation, which was biopsied. Abdominal ultrasound revealed a hypoechogenic formation, in the proximity of the pancreas tail, for which angioCT was performed, describing several splenic aneurysms and a particular aspect of hepatic vascularization. This pattern is suggestive for intrahepatic arteriovenous malformations. For the differential diagnosis: bacterial endocarditis, cirrhosis, connective tissue disease or vasculitis were taken into consideration. Resumption of the clinical examination allowed the discovery of a small telangiectasia of the upper lip. Based on the Curacao criteria, the diagnosis was established (3 out of 4: epistaxis, telangiectasia and a positive family history of a relative of the first degree). Further investigations were made in order to detect other possible abnormalities. Signs of pulmonary hypertension and heart failure were identified, complications secondary to the liver arteriovenous malformations. The patient received treatment with iron, initially parenterally, later orally. Selective embolization of the largest of the splenic artery aneurysms was performed, taking into account the risk of rupture. Iron therapy was maintained as a primary treatment. The patient is monitored biannually for the liver and heart disease. Screening for the family members was recommended.

Conclusions. Rendu-Osler disease is an incurable disease, but with a normal life expectancy if the complications of the disease are diagnosed and treated early. The particularity of the case comes from the incidental discovery of only one telangiectasia that allowed for the correct diagnosis.

Key words: Osler-Weber-Rendu disease, epistaxis, telangiectasias, arteriovenous Malformations

DEPARTMENT OF HISTOLOGY, CYTOLOGY AND EMBRYOLOGY

25. BORDERLINE SEROUS TUMOR IN A 12-YEARS-OLD GIRL: A CASE REPORT

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Background. Serous borderline tumor is a non-invasive epithelial ovarian tumor that occur at the reproductive age, present in early stage, frequently associated with infertility but it is easily curable. Although it may have symptomatic long-term recurrences, it has an excellent prognosis in spite of peritoneal spread. Among the epithelial tumors of the ovary, borderline serous tumor fall in the spectrum lying between cystadenomas (benign) and cystadenocarcinomas (malignant). Its oncological behavior is more aggressive than benign ovarian tumors but relatively less than that of malignant ovarian tumors. Since the affected age group is usually young females, preservation of fertility is an important aspect of treatment protocol that is why an accurate diagnose is an essential step in these cases.

Case report. A 12-year-old girl who presented painless abdominal distension over five months was referred to institute of Mother and Child for diagnosis and treatment. She had no medical history with the exception of abdominal distension and amenorrhea. The last menstrual cycle was 3 months before the admission. Her menstrual cycle has been irregular since she experienced the menarche at the age of 12. There was no reported use of oral contraceptives, and she was not known to be sexually active. Her physical examination showed abdominal distension and a firm mass without tenderness, extending from the pelvis to the umbilicus. An USG examination revealed left sided ovarian mass. Her tumor marker analysis, CA 19-9 (2,241 U/mL) and CA 125 (274 U/mL) were highly elevated. Routine blood analyses showed normal renal and liver function with the exception of elevated alkaline phosphatase (172 IU/L). Laparotomy was performed with a midline incision and a left salpingo-oophorectomy was performed. The surgical specimen was sent to pathology laboratory. There was confirmed serous borderline tumor. Histological description: serous cystadenofibroma with focal borderline of non-micropapillary type architecture. The CA 125 and CA 19-9 levels were decreased at 3rd, 6th and 12th months of follow-up.

Conclusions. In the adolescence, an early diagnosis for ovarian tumors is required for the determination of the direction of treatment. It is important to detect the possibility of malignancy in the early stage due to the effect on the future fertility and ovarian function. The goals of treatment for children and adolescents are to exterminate the disease, and restore the uterus and ovarian function for conservation of reproductive potential.

Key words: adolescent, Serous borderline tumor, Ovarian neoplasms.

26. NASAL POLYPS WITH ATYPICAL STROMAL CELLS – A HISTOPATHOLOGICAL DIAGNOSTIC DILEMMA

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Background. Nasal polyps represent inflammatory non-neoplastic masses of the nasal mucosa that affect 1% to 4% of the general population. They typically occur in individuals older than 20 years, having a higher incidence in males and frequently accompany rhinosinusitis.

Case report. We report a case of a 67-year-old woman with a known sleep apnea syndrome, persistent right nasal obstruction, seromucous rhinorrhea, symptomatology with an insidious evolution of about 6 months before the examination. The clinical exam showed a translucent, polypoid appearance, which extended from the level of the right to the left choanal orifice. Gross examination of the surgical specimen revealed a large, firm, white, polypoid mass. Microscopic examination showed large stromal bizarre appearing cells with elongated, hyperchromatic nuclei, surrounded by apparently normal epithelium. In this case, atypical stellate cells scattered throughout myxomatous or edematous stroma can be easily mistaken for a malignant process. Histological changes of spindle shape fibroblasts might be erroneously interpreted as certain pseudosarcomatous changes, low-grade sarcomas, rhabdomyosarcoma, sinonasal myxomas, neurofibroma, and nasopharyngeal angiofibroma. We want to emphasize that the major diagnostic problem could derive from the difficulty of differentiating an allergic or infectious reactive process from mesenchymal or neural origin lesions, due to an extensive proliferation of histiocytes, fibroblasts or irregular myofibroblasts. Another differential diagnosis that could have been considered is a long history of a previously biopsied mass with reactive proliferative stromal cells that can mimic malignancy, represented in our case by the reactive nature of the identified fibroblasts and histiocytes atypia.

Conclusions. Although the need for histopathological examination of nasal polyps is controversial, this diagnosis is encouraged, given that there are entities more severe than polyps, requiring examination to avoid a misdiagnosis of mesenchymal malignancy. Rigorous medical history associated with clinical data is important for appropriate patient management.

Key words: nasal polyps, atypical stromal cells, pseudosarcomatous change

DEPARTMENT OF MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY

27. CAR-T AND CORONA VIRUS

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Background. In a male 43, affected of hyper coagulation events and defect of coagulation a Corona virus's vaccine made by a Car-T clone would generate a decrease of BMI of a score of

at least two points. This could be an effective reduction of vessels in diameter and length and in its velocity of transmission. This could not reveal the hyper coagulation but could improve the production of coagulation factors

Case report. The systemic effects of this individual are analyzed bounded with his daily-life. The antigens whose generate respiratory disturbances as cough and dizziness are originated by chemical virions. The direct employed with fat decreasing score is depicted in a window of searching. A decrease in diameter and/or length of vessels could influence the virions to reach targets tissues as adipose or respiratory departments.

Conclusions. The shortening of vessels can define and limit the reaction with adipose tissues and epithelial cells. This situation could explain the eventual unbounded of inflamed and modified tissues with the virus. This written has been done to give rise the relations between a Car-T and a RNA virus of both animals and human origin. The case/the probes of cells whose receives and artificial mutations are of most interest because of the producing of modified proteins, decreasing protein ad many other conditions. Then studies of histo chemistry are opportunistic in decide which type of mono nuclear antibodies or therapy would be curative. When an artificial clone is wide, many protocols can be choose and even if the final clone is unique, then could be the case in which a variance could derive by the human mistake in a protocol activation. This variance in front of a certain type of clone could insert in doubt some practitioners and could generate changing in a protocol, as that of a Car-T construction. Deciding to relate the Car-T with this pandemic virus has not been easy. The decision derives by the need of some countries as that of Europe to determine a statistic window of people whose were affected and cure them by a new type of treatment mediated by the Car-T therapy. These therapy always considered as new, would be the starting for connect an entire clone (lymphocyte plus chimeric receptor) with a virus.

Key words: adipose tissue, 37.5°C, RT-PCR, respiratory and circulatory system

DEPARTMENT OF NEUROLOGY

28. CLINICAL MANIFESTATIONS OF CHOLINERGIC DEFICIENCY IN PATIENTS WITH PARKINSON'S DISEASE

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Background. According to the new concept of Parkinson's disease, the brain suffers from a generalized deficit of neuromediators inclusively serotonergic, adrenergic, dopaminergic, cholinergic and monoaminergic. An important role in the pathophysiology and biocellular mechanisms of Parkinson's disease is played by the cholinergic deficit that becomes evident later than the dopaminergic deficit

Case report. An important role in the pathophysiology and biocellular mechanisms of Parkinson's disease is played by the cholinergic deficit that becomes evident later than the dopaminergic deficit. Cholinergic neurons that are diffusely distributed in the cerebral parenchyma play an important role by its involvement in numerous brain processes, the most important being the accomplishment of the superior brain functions. Thus, with the progress of

the disease a large part of the patients develop cognitive disorders / dementia due to cholinergic deficit. In this paper, the features of cholinergic deficits in patients with Parkinson's disease and their clinical correlations are reviewed. Important neurophysiological processes at the root of several motor and cognitive functions refer to cholinergic neurotransmission at the synaptic level, pathway and circuit. Of interest would be the fact that there is evidence of the connection between cholinergic changes and motor symptoms, gait dysfunction, levodopa-induced dyskinesia, cognitive deterioration, psychosis, sleep abnormalities, autonomic dysfunction and impaired olfactory function. The pathophysiology of these symptoms is related to the alteration of cholinergic tone in striated and degeneration of cholinergic nuclei, the most important being the magnocellular basal nucleus and pedunculo pontine nucleus. Finally, several drugs acting on muscarinic receptors have been shown to be effective in the treatment of levodopa-induced dyskinesia and cognitive impairment but also as neuroprotective agents in experiments made on humans. However experimental results on patients are missing.

Conclusions. Parkinson's disease is a neurodegenerative disease with diffuse damage of the cholinergic system. Thus, with the progression of the disease occurs an expressed heterogeneity of clinical manifestations.

Key words: Parkinson's Disease, dementia, cholinergic deficiency

29. RESPIRATORY THERAPY - A POSSIBLE SOLUTION IN THE ALLEVIATION OF CHRONIC PAIN.

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Background. Establishing and arguing the interdependence of chronic pain and breathing. Analysis and confirmation of the efficiency of chronic pain management with the help of various respiratory techniques (such as: Pranayama, Deep Slow Breathing (DSB), Abdominal Breathing, etc.). Minimizing or even excluding the coping / improvement of the chronic pain with opioids, finding alternative in respiratory therapy. Pain is a component of many chronic conditions, chronic pain itself constituting a complex, disturbing nosological entity with a strong negative impact on the individual, family and society as a whole. Chronic pain is a major problem in the 21st century, affecting over 1.5 billion people worldwide (most of them constituting: lumbar pain (27%), migraine (15%), sore throat (15%), pain (4%), chronic pain is the number one cause of long-term disability. Another very important aspect is the economic one: in the United States alone, around 560-635 billion dollars is spent on treatment. of chronic pain, more than that there are registered budget losses of 299-325 dollars from the account of the hours and days of work that were missed. The global study of disease burden in 2016 reaffirmed that the increased prominence of pain and accompanying pain are the main cause of disability and burden of disease globally. Only 23% of chronic pain patients said that opioids are effective in their case.

Case report. The articles from the years 1984-2020 were selected and analyzed, reinforcing a meta-analysis from the works on PubMed, MEDLINE, EMBASE, Elsevier, Pain Magazine (2010-2019), Pain Medicine (2012), Breathe (2017), Respiratory Medicine (2013) etc. The articles that correspond to the contemporary standards of the scientific study were respectively

categorized into 4 types: 1) Experimental studies, 2) Clinical studies studying the effects of pain on respiration, 3) Clinical studies studying the effects of respiratory exercises on self-reported pain and 4) Experimental studies that follow for the purpose of determining the effect of the trained respiratory pattern on the pain induced in laboratory conditions. Most of the clinical studies analyzed (around 75%) report a beneficial pain-relieving effect following at least one of the respiratory techniques. Even if these results are promising other therapeutic active factors such as relaxation, massage, meditation, sea sounds etc. they may be equivalent involved in generating these balance sheets.

Conclusions. Following the analysis of studies regarding the association between respiration and pain, both physiologically and psychologically, an interesting and significant connection is determined. Most clinical studies document the benefit of Slow Deep Respiration (SDB) in relation to pain relief, but experimental studies do not consistently achieve this result, as does the case of a direct correlation between breathing and hypoalgesia (an indirect mechanism being more plausible). In the near future the following questions require an answer: 1) Do such psycho-behavioral mechanisms such as concentration, distraction, anticipation and self-control caused by the instructed breathing reduce pain? 2) What other processes central to Deep Slow Breathing (SDB) can induce respiratory hypoalgesia and what can we conclude from the literature on animals in this regard?

Key words: Pranayama, SDB, Abdominal Breathing.

30. DIFFERENTIAL DIAGNOSIS OF INTRACEREBRAL HAEMORRHAGES. CASES FROM THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY

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Background. Intracerebral hemorrhage (ICH) is the second most common type of stroke, responsible for about 20% of total number of cerebrovascular accidents. There are many pathologies associated with ICH, some related to common vascular risk factors like hypertension, others related to ruptured saccular aneurysm, and vascular malformation, and others to neurodegeneration like amyloid angiopathy.

Case report. We present a series of cases of intracerebral haemorrhages related both to the most common causes and mechanisms of ICH, as well as other, less frequent, pathologies that could manifest as a hemorrhagic stroke. Differential diagnosis is based on hematoma localization, size and shape, age of the patients, and vascular risk factors. We also present data on prognostic factors for hematoma growth and outcome. All cases were collected from the Institute of Neurology and Neurosurgery "Diomid Gherman", Chișinău, Republic of Moldova.

Conclusions. Although ICH is the second leading cause of stroke, there is a wide range of pathologies that can result in intracerebral hemorrhage and require an extensive work-up, especially in young patients without vascular risk factors.

Key words: intracerebral hemorrhage, ICH, hypertension, amyloid angiopathy, CAA, hematoma, aneurysm

31. A CASE OF TEMPORAL LOBE EPILEPSY WITH HIPPOCAMPAL SCLEROSIS

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Background. Temporal lobe epilepsy (TLE) is the most common form of focal epilepsy. Approximately 6 out of 10 patients with focal epilepsy have TLE. Hippocampal sclerosis (HS) is a frequent pathological abnormality underlying the TLE.

Case report. A 34-year-old man was admitted to the epileptology clinic with seizure episodes that start focally with an unpleasant feeling in the stomach, unusual smells, unmotivated fear followed by repetitive jerky movements of the left part of body and complex automatic behavior, accompanied with altered consciousness, which periodically progressed to a bilateral tonic-clonic seizure. The postictal period was characterized by confusion and amnesia. The seizures started at the age of 12 years after a traumatic brain injury. Carbamazepine, valproic acid, and clonazepam have been used (in monotherapy or polytherapy) to treat seizures, however, with inadequate response. His video electroencephalogram (EEG) monitoring revealed focal right temporo-frontal epileptiform discharges (spike, sharp wave, sharp and slow-wave) in wakefulness; right temporal, temporo-frontal epileptiform discharges in drowsiness and slow sleep. The high-density EEG (256 channels) revealed the onset of epileptiform activity in the hippocampus (parahippocampal gyrus) with subsequent propagation to the temporal lobe (superior temporal gyrus). MRI scan showed that the inferior horn of the right lateral ventricle measured 5.0 mm (left 1.5 mm) and the right hippocampus had a reduced volume. After the neurological evaluation, patient was started on carbamazepine extended release (15 mg/kg/bid), lamotrigine (3.5 mg/kg/bid) and clonazepam 1 mg/qd. With this combination of drugs, his seizures are partially controlled.

Conclusions. Seizure semiology, video-EEG, high-density EEG, and MRI results confirm the diagnosis of TLE with HS. Taking into account the inadequate control of seizures with medication and the presence of a confirmed structural cause, the patient could be considered eligible for the pre-surgical evaluation. TLE with HS is refractory for treatment in as many as 60% to 80% of cases. However, with the aid of MRI, high-density EEG, and neuropsychological evaluation, patients can now be timely selected for a surgical resection, a procedure that leads to seizure control and improvement in disabling psychiatric symptoms with minimal need for medication. Studies show a better long-term outcome in patients with HS after surgery (up to 90%) in comparison with antiepileptic drug therapy.

Key words: Temporal lobe epilepsy, hippocampal sclerosis, drug resistance, high-density EEG

32. CHARGE SYNDROME

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Background. Introduction. In this descriptive study the clinical and neurological issues related to CHARGE syndrome (C – coloboma, cranial nerves; H – heart defects; A – atresia of the choanae; R – retardation in growth, mental development, G – genital abnormalities, E – ear malformation / hearing loss) were assessed. The study presents the clinical examination of one case with typical form of pathology, along with the identification of diagnosis and treatment particularities. Aim of study. Being a relatively rarely encountered disease, it requires a separate attitude from both patients and medical staff. The aim of the study is the identification of typical existing forms of the disease, in order to determine the principles and methods of diagnosis and treatment.

Case report. Materials and methods. A 19 years old boy was admitted to the Institute of Neurology and Neurosurgery, Chisinau, Republic of Moldova in February, 2020 being evaluated according to clinical methods (investigation, anthropometry) and laboratory tests. Results. The patient's complaints were: hearing impairment, memory loss, pain in thoracic and lumbar spine, headache, asthenia, myalgia. Neurological examination: hyposmia; the presence of hearing loss in left ear, and hypoacusis in the right ear; unsteady Romberg's position; diffuse hypotonia. Somatic examination: BMI = 14,7 kg/m² (hyponutrition), regular pulse, BP = 120/90 mmHg. Patient presents major criteria: atresia of choane, cranial nerve dysfunction – I, VIII, IX, and minor criteria: rhomboencephalic dysfunction including sensorial deafness, hypothalamo-hypophyseal dysfunction (gonadotropin or growth hormone deficiency) - genital hypoplasia and growth deficiency, characteristic facial features, intellectual disability, feeding difficulties, skeletal anomalies – thoracic and lumbar scoliosis grade 2 with rib block T8-T10. Atypical signs: immunodeficiency, gastroesophageal reflux, sleepiness, vestibular abnormalities. Prior to establishing the final diagnosis, the differential diagnosis was: Rubinstein-Taybi syndrome and Oppenheim amyotonia. The CHARGE syndrome is an autosomal dominant genetic condition caused by a mutation in the CHD7 gene. The patient has 2 sisters, 24 and 21 years old, who are also diagnosed with CHARGE syndrome. They both are pregnant, and the risk of passing on the syndrome to their offsprings is very high. Early appropriate investigations of the syndrome facilitate a correct diagnosis and proper management. Given the number of affected systems in CHARGE syndrome, we believe that a multidisciplinary clinical model is beneficial in the management of these children: the general paediatrician, genetic diagnosis, otolaryngologist, ophthalmologist, cardiologist.

Conclusions. The patient manifests a typical phenotype of CHARGE syndrome according to the Verloes's criteria. The diagnosis is usually made on clinical grounds. It requires a genetic test to confirm the CDH7 mutation in order to identify the individual's and their offsprings' risk and to initiate an early targeted therapy.

Key words: charge syndrome, criteria, clinical features, genetic testing

33. EPILEPSY IN PATIENTS WITH MULTIPLE SCLEROSIS

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Scientific adviser: Groppa Stanislav, Academician of the Academy of Sciences of the Republic of Moldova, MD, PhD, Professor, Head of Neurology Department, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Background. Multiple sclerosis (MS) is a central nervous system disorder characterized by inflammation, demyelination and neurodegeneration, and is the most common cause of acquired nontraumatic neurological disability in young adults. The course of the disease varies

between individuals: some patients accumulate minimal disability over their lives, whereas others experience a rapidly disabling disease course. A part of patients with multiple sclerosis presents also seizures that lead to epilepsy. Several clinical series reported an association between multiple sclerosis and epilepsy. The most studies show an increased comorbidity between multiple sclerosis and epilepsy. The cumulative incidence of epilepsy by 10 years after diagnosis of MS was 1.9%. The probable anatomic basis for the seizures is areas of inflammation, edema, and/or demyelination in the cerebral cortex and the juxtacortical white matter generated by a mechanism that is not completely understood; the fact that these plaques are very common suggests that other factors must operate in view of the rarity of seizures in MS. In most cases, however, the prognosis of epilepsy was good and there seemed not to be any clear correlation between the severity of MS and epilepsy.

Case report. A patient V. male, 41 years, came at a neurologist in April 2019 with the following complaints: facial hyperemia, heat sensations, alterations of consciousness with convulsive components in the anamnesis. At the same time: walking instability, recurrent diplopia, frequent urination, sleeping disorders, memory loss and decrease in body mass. Anamnesis: In 2005 patient has an acute respiratory infection, possible a flu. After a half a year had appeared diplopia, diplopia and frequent urination. In 2007 the diagnosis of multiple sclerosis was established. The diagnosis was confirmed in Moscow and the patient started the treatment with Galatimer acetate (Copaxone) that he administered for 5 years with the improvement of the evolution of the disease. Subsequently administered Acsoqlatiran till present but without any obvious effect. In 2015 the patient has a seizure for the first time with unconsciousness but without warning signs. Other signs and symptoms associated with unconsciousness the patient doesn't remember. A similar episode was in 2017. In 2019 the patient received symptomatic treatment in the neurology department for diagnosis: Multiple sclerosis clinically and imagistic defined, recurrent remissive form, in exacerbation, with pronounced atactic syndrome. Structural epilepsy-mesial temporal sclerosis on the right associated to multiple sclerosis plaque with focal seizures with bilateral passage treated with Carbamazepine retard 300 mg/day. Now the antiepileptic treatment is Timonil 750 mg/day with a very good outcome.

Conclusions. MS is a risk factor for developing epilepsy. Patients with MS have a threefold increase in risk for developing epilepsy when compared with that expected in the general population. The reason for this increased risk is unclear and needs further investigation.

Key words: Multiple sclerosis, epilepsy, seizures, disability.

DEPARTMENT OF ONCOLOGY

34. COLLECTING DUCT CARCINOMA APPEARING AS A HEPATIC HYDATID CYST. A RARE CASE REPORT

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Co-authors: Emőke Drágus, Réka Linda Fülöp

Scientific adviser: Tivadar Bara Jr, Simona Gurzu,

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Background. Collecting duct carcinoma is located in the renal medulla and it originates from the collecting duct epithelium. It involves about 1% from all renal epithelial malignancies.

Male patients are more exposed and the tumor localization shows a right sided predominance. It is characterized by aggressiveness and poor prognosis.

Case report. We present a case of a middle age male patient who complained of right hypochondriac pain. The physical examination evidenced a large abdominal tumor formation in the right hypochondria and ultrasonography highlighted a mass, localized in the 8th segment of the right liver lobe. The primary diagnosis defined a hepatic hydatid cyst. A subsequent CT scan revealed a cystic structure of the right kidney, which presented Bosniak III type and measured 126x121x146 mm. Surgical treatment was initiated and intraoperatively a right kidney tumor was detected, due to which right nephrectomy was performed. The histopathological examination and the immunohistochemical profile established the final diagnosis of collecting duct carcinoma, with the tumor stage of pT3Nx. Regarding the patient's evolution, he was mobilized on the first postoperative day and was discharged after seven days. The patient did not receive any oncological treatment. 18 months following surgery the laboratory investigation values were within normal limits and any sign of relapse was excluded with ultrasonography. After 20 months the patient affirms that he is in good overall condition.

Conclusions. As conclusion early diagnosis and surgical treatment can improve patient's prognosis and disease-free survival. This work was supported by the Collegium Talentum 2019 Program of Hungary.

Key words: collecting duct carcinoma; hepatic hydatid cyst; case report

DEPARTMENT OF PNEUMOLOGY AND ALLERGOLOGY

35. TUBERCULOSIS - "MASK" OF PULMONARY EDEMA

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Scientific adviser: Doina Rusu, MD, PhD, Associate Professor, Department of Pneumology and Allergology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Background. Cardiogenic pulmonary edema is a medical emergency, which requires prompt management.

Case report. A 28 years old female with pregnancy 22 weeks, without anamnestic of cardiovascular pathology, but with periodic syncopal conditions caused by stress and chronic tonsillitis. Without any tuberculosis contact. The patient has been consulted by the family doctor with moderate pain in the bilateral lumbar region, fever 39, pollakiuria, dysuria and macrohematuria and she was admitted to the district hospital. In the blood test highlighted changes for inflammatory syndrome, at the urinalysis - insignificant proteinuria and leukocyturia. Was initiated antibacterial treatment with cephalosporins generation III. Over 24 hours the condition of the patient with the sudden exacerbation manifested by dyspnoea and hemoptysis (sputum with fresh blood sprays). X-Ray changes - bilateral pneumonia. The patient was transferred to the pneumology clinic, ATI section with the clinical diagnosis: Bilateral community pneumonia, severe evolution. Suspected of pulmonary TB? Chronic bilateral pyelonephritis, exacerbation. Pregnancy 22 weeks. From the objective data we can emphasize SaO₂ at 87% TA 100/50 mmHg, FCC - 115 b / min, auscultation in lungs - crackles bilaterally. At auscultation of the heart - systolo-diastolic murmur at the apex and systolic at the tricuspid valve. Sputum and urine testing at BAAR, GeneXpert – negative.

Electrocardiography - sinus rhythm, AEC - intermediate, FCC - 120 b / min. Ultrasound of the heart with moderate mitral stenosis (GP: 16). Insufficiency VM gr. III, Insufficiency VT gr. II-III. Systolic pressure in AP 37 mmHg. FA - 57%. Cardiac surgeon has confirmed the diagnosis: Rheumatic heart disease with mitral- tricuspid defect. After treatment with antibiotic therapy, diuretics and calcium channel antagonists -radiological changes disappeared on the 3rd day after treatment.

Conclusions. According to the literature, valvulopathy during pregnancy is detected mostly at late pregnancy term (> 20 weeks), in about 3-5% of cases. Sometimes this pathology can wear the "mask" of other pathologies, which can delay the optimal treatment.

Key words: Pulmonary edema, pregnancy, rheumatic heart disease, tuberculosis

36. THE EFFICACY OF NEW MEDICINAL DRUG: BEDAQUILINA AT TREATMENT OF THE XDR-TB

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Background. Moldova is a country with high priority in TB control in the European Region. At the national level, tuberculosis remains one of the priority public health problems, the country being among 30 countries with high burden of multidrug-resistant tuberculosis in the world.

Case report. Male 37 years was hospitalized on 13.07.2018 with complaints of coughing mucous-purulent repeated hemoptysis, dyspnea on exercise, lack of appetite. History of the disease: was first detected in 2014 TB MDR when TB treatment with second-line tuberculosis anti-tuberculosis drugs was initiated, subsequently followed the treatment in irregular ambulatory conditions. On 15.07.2015, a "therapeutic failure" was qualified. In 2015, he left for Italy, where according to the patient he underwent antituberculosis treatment for 12 months. Over two years, on 07/13/2018, he addressed to the doctor with complaints mentioned above. Following investigations were found: positive Xpert MTB + RIF - REZ; BAAR. Culture confirmed resistance HRES Km LFX MFX Eto Cs. Chest X-ray: bilateral nodular opacities. It has established diagnosis: infiltrative pulmonary TB bilateral evolutionary stage, with destruction in the right with release in the left resistant to HRESKmLfxMfxEtoCs. The treatment scheme was indicated: Cm-1,0; Lzd-0,6; Cs-0,75; Bdq-200 mg which was administered regularly for 15 months with quarterly reassessment to the TB Committee. During treatment monthly was examined: CBC; Blood biochemistry; ionogram; Audiogram - within the norm. ECG - QT interval calculated within 0.34-0.41 seconds. Microbiological examination of sputum for 15 months of treatment: 15 negative microscopes, 15 negative cultures. Chest CT - after 15 months of treatment - resorption of infiltrative processes and fibrosis formation. The patient was assessed by the Management Board on 08.10.2019 and the case was classified as healed.

Conclusions. 1. Frequent interruptions of treatment, irregular administration of antituberculosis preparations have led to the development of the TB XDR. 2. The introduction of Bedaquilina in the treatment of MDR TB offers an opportunity to successfully treat this form of drug-resistant tuberculosis.

Key words: TB XDR, Microscopic culture, sputum, QT interval, fibrosis ,Bedaquilina

37. PULMONARY ALVEOLAR PROTEINOSIS: FROM HOUSE PAINTING TO DIFFUSE LUNG DISEASE

Author: **George-Alexandru Chirita**

Scientific adviser: Toma Claudia, MD, PhD, Associate professor, *Grigore T. Popa* University of Medicine and Pharmacy, Iasi, Romania

Background. Pulmonary alveolar proteinosis (PAP) is a rare disease characterized by the accumulation of periodic acid-Schiff (PAS)-positive lipoproteinaceous material within the alveoli resulting in hypoxemic respiratory failure. Secondary PAP due to heavy inhalation exposure to inorganic dusts causes a reduction in the number and clearance capacity of alveolar macrophages.

Case report. We present you the case of a 42-year-old Sudanese patient with a 17-pack years smoking history who shows up at the hospital in December 2019 for dry cough, weight loss and exertional dyspnea. The onset of the symptoms started 2 months earlier, after using sandpaper on the walls while refurbishing his house. The initial diagnosis based on the clinical context and chest X-ray was pulmonary tuberculosis. However, the Acid-Fast Bacillus (AFB) smear was negative and the High-resolution CT showed a “crazy-paving” pattern. The blood count showed no evidence of hematologic malignancy or myelodysplastic syndrome. A flexible bronchoscopy to obtain bronchoalveolar lavage (BAL) fluid was performed. The examination of the BAL fluid showed the presence of PAS-positive material and the growth of E.coli colonies with no atypical cells found. Pulmonary function tests demonstrated a moderate reduction in the diffusing capacity for carbon monoxide (DLCO). : Using all of the findings, the diagnosis of secondary pulmonary alveolar proteinosis was established. The patient received antibiotic treatment with ceftriaxone and ciprofloxacin. Whole lung lavage under general anesthesia via a double-lumen endotracheal tube was performed, which proved to be effective. The patient was advised to stop smoking and a regular check twice a year was recommended.

Conclusions. Secondary PAP represents less than 10% of the total cases of pulmonary proteinosis. Further tests should be performed to identify the exact etiology in this situation The particularity of the case comes from the short exposure to the toxic, as well as its ethnic background.

Key words: pulmonary alveolar proteinosis, diffuse lung disease, PAS positive, toxic exposure

DEPARTMENT OF RHEUMATOLOGY AND NEPHROLOGY

38. A MYCOBACTERIAL INFECTION AND THE RISK OF NEWLY DIAGNOSED SJÖGREN'S SYNDROME

Author: **Dina Postovan**

Scientific adviser: Liliana Groppa, Md, PhD, University Professor, Department of Internal Medicine Rheumatology and Nephrology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Background. TB is a widespread infection, which has various clinical forms, can be asymptomatic and is very commonly associated with autoimmune diseases such as SLE, SS, RA, SS, DM and others not only due to immunosuppressive treatment, but also to characteristic immunological disorders

Case report. A 26-year-old woman presented to a rheumatologist with a list of immunological investigations performed 4 months ago (RF Ig M- 125 IU / ml, positive; ANA, Anti SSA Ig G, Anti-SSB Ig G, Anti Ro 52, Ig G - intensely positive, Anti RNP / Sm, Ig G-positive, Anti p ANCA Ig G- positive. During the interview we found out that the patient had symptoms like dryness in the mouth, dryness of the eyes, signs of Raynaud's syndrome, fatigue, left unattended. It all started 6 months ago, she performed the hemogram where ESR was 50mm/h, which put her on guard and performed the chest x-ray where was a consolidation area in S1-S2 on the right with nodulation around. At the medical indication she was given antibiotic therapy for 14 days, without radiological dynamic. The computer tomography confirms the infiltration in S2 with the air bronchogram, a nodular aspect of it and the presence of calcifications (characteristic tomographic changes for an inflammatory process of type Tuberculosis TB, with tomographic signs for the activity of the inflammatory process). Also, the patient underwent fibrobronchoscopy twice -aspirated BAAR, GeneXpert, classical culture, all negative and transbronchial biopsy with results that did not confirm TB. It should be mentioned that in childhood the patient contacted the patient infected with TB, BAAR positive and followed the TB treatment. ESR and immunological investigations were re-evaluated in dynamics: 44 mm / h; Anti-Nuclear Antibodies: 146.3 U / ml; Anti-SS-A antibodies: 132.3 U / ml; Anti-SS-B Antibodies: 192.3 U / ml; Ocular assessment suggested keratoconjunctivitis sicca. She was diagnosed with primary Sjögren's syndrome (pSS) and was administered with Methylprednisolone 500 mg per day, 3 days. In dynamics without immunological and clinical changes, but with CT image-infiltrative process in the upper lobe of the right lung with solitary cavity formation, suggestive for evolutive infiltrative TB. The lack of positive dynamics after pulsterapy and imaging changes led to the suspicion of TB as comorbidity. The patient was reinvestigated with the diagnosis of TB was confirmed, followed by anti-tuberculosis treatment with positive dynamics. She went to the rheumatologist to monitor and administer the treatment for Sjogren's Syndrome.

Conclusions. The predisposing factors of tuberculosis infection in this patient include immunopathological disturbance secondary to pSS. But pSS alone does not seem to be a susceptible factor for tuberculosis infection. The discrepant pathological processes involved in these two distinguished disease profiles could be an explanation for different susceptibility of tuberculosis.

Key words: Sjogren Syndrome, Tuberculosis, chest imaging

39. A CASE OF GONARTHROSIS SECONDARY TO VARUS ANGULAR DEFORMITY

Author: **Andreea Mocanu**

Co-authors: Manea Andrei ,Oancea Gabriela

Scientific adviser: Dr. Zolog Dan *George Emil Palade* University of Medicine, Pharmacy, Science and Technology of Targu Mures

Background. Gonarthrosis is defined as the arthrosis of the knee, being one of the most common joint disorders of the elder, affecting about 30% of >60 years old people. As an

arthrosis is usually a silent disease that is discovered at late stages as it causes pain when the patient mobilizes the affected articulation. Out of the 291 conditions that contribute to disability, hip and knee osteoarthritis are ranked 11th, knee arthrosis affecting more the 250 million people, based on a 2010 statistic (about 3.6% of the population)

Case report. The patient, a 63 years old woman, was admitted to the Orthopedics and Traumatology clinic at the Emergency County Hospital on 26th of February accusing pain at the right knee and functional impotence. The primary diagnosis of the patient was gonarthrosis secondary to varus angular deformity, but also suffering arterial hypertension, being under treatment with Ramipril, having an ASA score of II. The surgical procedure took place on the 3rd of March and consisted of cemented total knee arthroplasty which represents the gold standard in such interventions. Because of the deformity of the knee, the ligamentar balancing is much harder to obtain than in a non-deformity patient. The patient is now recovering and is waiting for discharge.

Conclusions. The arthrosis of the knee is a medical condition that affects the mobility of the patient and disables him in his daily routine. The gold standard in treating such conditions consists of a cemented total knee replacement.

Key words: gonarthrosis, osteotomy, arthroplasty

40. A CASE OF CARPAL TUNNEL SYNDROME IN PATIENT WITH RHEUMATOID ARTHRITIS

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Scientific adviser: Daniela Cepoi-Bulgac, PhD, University Assistant, Department of Internal Medicine Rheumatology and Nephrology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Background. Carpal tunnel syndrome (CTS) is the most common entrapment neuropathy caused by compression of the median nerve at the wrist, and most likely the most common peripheral neurological involvement in patients with rheumatoid arthritis. It is manifested with pain and/either paresthisias at night associated with weakness, loss of dexterity and even thenar atrophy.

Case report. We report a case of a female patient GN, 42y.o., with established seropositive (FR-153 IU/L; anti-CCP – 340 U/ml), highly active (DAS28-5.47) Rheumatoid Arthritis. Now she presented with inflammatory joint pain and swelling in 11 joints (including elbow bilaterally, wrist bilaterally, metacarpophalangeal, and proximal interphalangeal joints), morning stiffness is more than 2 hours, additionally she reports numbness, tingling and burning in the 1,2 and 3rd fingers of the left hand. Carpal tunnel syndrome was suspected. Both Tinel's (paresthesia in a median nerve distribution, after percussion of the median nerve at the wrist) and Phalen's (paresthesia in a median nerve distribution, after passive flexion of the hand at the wrist) signs were positive. The patient recalls having similar symptoms in the right hand 3 years ago. An EMG exam performed at that time was showing: Prolongation of the median motor distal latency and median F-wave abnormalities. A diagnosis of carpal tunnel syndrome was established the patient being treated with surgical approach by neurolysis of the median nerve. Considering that the patient presented with swelling in the left wrist joint, it was decided to do an infiltration of corticosteroids. The patient had a satisfactory recovery with resolution of all carpal tunnel symptoms within 1 week. When looking for a detailed history of disease it

was concluded that the carpal tunnel syndrome in the right hand occurred most likely also as a consequence of joint swelling which is frequently disregarded as an important and easily treatable cause of carpal tunnel syndrome. However, the situation was less clear due to the fact that it occurred at the onset of rheumatoid arthritis.

Conclusions. Carpal tunnel syndrome is the most frequent nerve entrapment condition associated with RA. Although diagnosis is at time tricky, one shouldn't prompt surgical approach since most cases are caused by flexor tenosynovitis which responds well to injections with corticosteroids. However to prevent development of such complication, effective disease modifying therapy should be in place.

Key words: arthritis, carpal tunnel syndrome, neurolysis

41. FAMILY CASE WITH FAMILIAL MEDITERRANEAN FEVER (FMF)

Author: **Abed Rabia**

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Background. Familial Mediterranean fever (FMF) is an auto-inflammatory disease characterized by periodic episodes of fever and recurrent polyserositis. It is caused by a dysfunction of pyrin (or marenostin) as a result of various mutations within the MEFV gene, some causing very severe cases, while others may result in milder signs and symptoms.

Case report. We report the case of a family in which 4 members displayed similar symptoms and were confirmed genetically with mutations characteristic for FMF. The 4 members displaying signs of FMF are the father and the 3 out of 6 siblings (2 males and 1 female). The main presenting complaint in all members is the recurrent abdominal pain. The father which tested genetically as follows - FMF-V726A carrier; FMF-E148Q homozygote, at the age of 45 started having recurrent attacks of unspecified abdominal pain, followed by diarrhea, and he was diagnosed with FMF, based on a family history of FMF in his brother. Later on the disease was confirmed genetically. Although, the onset is considered to be at the age 45, there is a history of left knee effusion at age 18 due to strenuous exercises in the army. Additionally he presents with polyarthralgia and stiffness over the day especially in left knee, both elbows and interphalangeal joints. Sibling no.1 – a 27 y.o. male with onset of disease at age 27 presents with attacks of appendicitis-like pain, cramps and flatulence, without diarrhea associated with recurrent left knee arthralgia. Average duration of attacks is of 2-3 days a month with milder symptoms after starting colchicine use. Has a history of knee arthritis at the age of 10, chest stabbing pain during deep breath (pleuritic chest pain), and one episode of erythema nodosum on both shins resolved within a couple of weeks after the attack. Genetic testing revealed FMF-V726A heterozygote; FMF-E148Q heterozygote. Sibling no.2 – a 26 y.o. male with disease onset at the age 23 with attacks of generalized peritoneal pain followed by diarrhea, stabbing chest pain aggravated by deep breath (pleuritic chest pain), no joints symptoms. Genetic testing revealed FMF-V726A heterozygote; FMF-E148Q heterozygote. Sibling no. 3 – a 15 y.o. female with onset of disease at age 9, with menstruation related attacks of generalized peritoneal pain followed by diarrhea, pain in both knees and generalized weakness. Genetic testing revealed FMF-V726A heterozygote; FMF-E148Q heterozygote. All patients manage to control the disease with diet and colchicine.

Conclusions. Although traditionally fever is considered a hallmark of FMF, with the discovery of genetic mutations, we can confirm a greater variety of clinical presentation, not all cases presenting with all classical symptoms. The described family presents with mainly peritoneal symptoms and all siblings display the same mutations FMF-V726A heterozygote and FMF-E148Q heterozygote

Key words: Familial Mediterranean Fever, serositis, genetic testing

42. A CASE OF IGA NEPHROPATHY AND AMYLOIDOSIS IN PATIENT WITH ANKYLOSING SPONDYLITIS

Author: **Firas Sirhan**

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Background. IgA nephropathy is considered the most common cause of glomerulonephritis. Traditionally it presents with gross hematuria after an upper airway infection. However, there is a considerable population presenting asymptomatic microscopic hematuria. Patients with SpA are believed to be more affected by IgA nephropathy than the general population, as the two conditions share common etiopathogenic pathways. This mechanism might involve the decreased expression of the receptor responsible for the clearance of IgA 1 and its immune complexes on the surface of monocytes and neutrophils. Another frequent association for patients with systemic inflammatory diseases is renal amyloidosis.

Case report. Male patient B, 49 y.o., was admitted to the Republican Clinical Hospital in Apr 2017 with hypotension (75/50 mmHg), profuse edema of lower limbs up to inguinal area and confusional state. Patient was known with a history of Ankylosing Spondylitis since the age of 14, with IV x-ray stage of sacroiliitis, coxofemoral and spine involvement. Since 1991 the patient followed regularly NSAIDs and intermittently corticosteroids in small doses. For a period of 6 years intermittent microscopic hematuria and mild proteinuria were noticed. The patient repeatedly tested with increased levels of serum IgAs, however refused kidney biopsy. In December 2016 he was admitted with fever, myalgia and arthralgia and HTA to a local intensive care unit. Upon that admittance the patient displayed oliguria, microscopic hematuria, mild proteinuria, and accelerated ESR, with a creatinine of 249 $\mu\text{mol/L}$. Musculoskeletal complaints prompted increased doses of NSAIDs and corticosteroids (Prednisone 40 mg, and Aceclofenac 100mg x 2 /day), considering his main disease, despite the modified pattern of myalgia and peripheral arthralgia. A week after he was discharged he developed profuse edema that consequently led to his admittance to the republican hospital. Hematology revealed severe anemia, leucocytosis and accelerated ESR. Urinalysis showed normal SD, with leucocyturia up to 27 HPF, microscopic hematuria up to 80 RBCs HPF, with a proteinuria of 30 g/24h. Serum chemistry showed hypoproteinemia (32 g/L) and hypoalbuminemia (8.6 g/L), and elevated creatinine – 409 $\mu\text{mol/L}$. Kidney biopsy was performed revealing moderate amyloid deposits. Despite initiated hemodialysis, the patient died within 1 month from multiorgan insufficiency.

Conclusions. long standing AS favored the development of IgA nephropathy in the given patient; most likely the co-occurrence of newly depicted high levels of creatinine, with hematuria and modified pattern on musculoskeletal complaints spoke about acute tubulo-

interstitial nephritis due to use extensive use of NSAIDs precipitating loss of kidney function particularly considering pre-existing amyloid deposits.

Key words: IgA nephropathy, renal amyloidosis, ankylosing spondylitis

43. A CASE OF DIFFERENTIAL DIAGNOSIS IN A PATIENT WITH HAND OA

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Background: Hand osteoarthritis is mainly a primary osteoarthritis, involving genetic predisposition. Although clinical diagnostic criteria were developed and many cases can be diagnosed without additional diagnostic procedures, some patients need a comprehensive assessment to exclude other possible arthritis.

Case report: Female patient A., 61 years old, presented with pain both at rest and during motion in wrists, first CMC (carpometacarpal), 2-3rd MCP (metacarpophalangeal) and first to Vth PIPs (proximal interphalangeal), as well as 2-3rd DIPs (distal interphalangeal) joints. Being asked the patient reported morning stiffness more than 30 minutes but less than one hour. She reported the symptoms having a gradual onset for the last year, however the complaints worsened in the last 2 months and as she reports the MCPs got swollen in the last months. Physical examination revealed no tenderness in the wrists, yet significant tenderness in both first CMCs, mildly tender MCPs on squeeze test, as well as tenderness and mild swelling in II-III PIPs. At this moment considering morning stiffness, the reported joint swelling and the pattern of joint involvement, 3 main diagnoses should be considered: early onset RA, osteoarthritis of the hand and calcium pyrophosphate deposition disease. Laboratory assessments: Uric acid: 402 $\mu\text{mol/l}$; ALT:26.1 U/L; Anti HBcor sum (Anti HBcor sum:7.27 S/CO, Anti HBcor sum: Reactive); Anti HCV (Anti HCV:0.08 S/CO, Anti HCV: Nonreactive); ASL-O (Antistreptolizina-O):91 IU/ml; AST:31.7 U/L; Direct Billirubin:6.4 $\mu\text{mol/l}$; Total Billirubin:17.0 $\mu\text{mol/l}$; Calcium:2.68 mmol/l; Creatinine:58.0 $\mu\text{mol/l}$; Rheumatoid factor: 124.0 IU/ml; HBs Ag (HBs Ag:0.31 S/CO, HBs Ag :Nonreactive); C-reactive protein: 5.56 mg/l; Uree:8.1 $\mu\text{mol/l}$; Fibrinogen: 4.0 g/l; anti CCP < 10 U/ml. X-ray revealed diffuse moderately expressed osteoporosis, signs of osteophyte formation in the PIPs, and asymmetric narrowing of the joint space, and subchondral bone sclerosis, advanced disarthrosis, capsular densifications on the capsule of the II and III MCPs.

Conclusions: The final diagnosis was Hand osteoarthritis based on specific radiological findings and a clinical picture pleading more for a degenerative condition. Initially, before the definite development of Heberden's and Bouchard's nodes patients go through a stage of inflammation with mild joint swelling, which poses certain question in the initial diagnosis of hand osteoarthritis. The confounding laboratory data such as presence of Rheumatoid Factor and a mildly increased C-reactive protein may be explained by the depiction of positive Anti-Hbcore sum). Additionally the patient did not have anti-CCP antibodies which are more specific for RA.

Key words: hand osteoarthritis, rheumatoid arthritis, calcium pyrophosphate deposition disease, osteophytes, joint space narrowing

DEPARTMENT OF CLINICAL SYNTHESIS

44. PULMONARY EDEMA IN CHRONIC HEMODIALYSIS HYPERTENSIVE PATIENT

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Co-authors: Ana Popa, Marina Savca

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Background. Cardiovascular diseases including acute pulmonary edema (EPA) are the most common causes of hospitalization in patients with chronic dialysis. Mortality due to pulmonary edema in hemodialysis patients is 10%. EPA's dramatic presentation calls for emergency care, usually in intensive care units. The purpose of this study is to present a chronic hemodialysis hypertensive patient with pulmonary edema.

Case report. The 73-year-old patient presented to the Emergency Medicine department with mixed dyspnea pronounced at the minimal effort, productive cough with poor serous expectations, moderate intensity retrosternal pain, headache, general asthenia, paresthesia in the lower limbs. Known from the records of the family doctor with the diagnosis of renal hypertension for 15 years, type II diabetes mellitus, insulin-independent, terminal hemodialysis-dependent renal failure of 9 months. The patient developed the signs of acute pulmonary edema: severe dyspnea at rest, tachypnea, psychomotor agitation, obnoxious consciousness, peripheral cyanosis. The objective examination revealed evidence of alveolar edema. Respiratory frequency was 22 b/min, data of the blood arterial gases were SpO₂ - 88%, fraction of inspired oxygen (FiO₂) - 21%, partial pressure of O₂ in the alveolar gas (pO₂) - 27.3 mmHg, the ratio of partial pressure arterial oxygen and fraction of inspired oxygen (pO₂/FiO₂) - 1.30, partial pressure of oxygen in the arterial blood (PaO₂) <60mmHg. The apexian shock in the V left intercostal space, rhythmic cardiac contractions and accentuated A2. Blood pressure was 160/90 mmHg and heart contractions were 76 b/min. Laboratory analyzes showed: anemic syndrome: hemoglobin - 102 g/dl, erythrocytes - 3.45x10¹²/l, and increased erythrocyte sedimentation rate - 43mm/h. Biochemical examination revealed elevated urea - 30.0 mmol/l and serum creatinine - 1184 mmol/l, hyperkalemia - 6.0mmol/l. The electrocardiogram recorded sinus rhythm, conduction disturbances: I degree of atrio-ventricular block and deflected to the left of the electrical axis. Echocardiographic examination revealed: cardiomegaly, wide aortal stenosis, left and right atrium and ventricle dilation, mild concentric left ventricular hypertrophy and preserved left ventricular ejection fraction - 53%. Severe mitral valve valvulopathy III-IV degree, relaxation of the myocardium VS and signs of moderate pulmonary hypertension, increased systolic pressure in the pulmonary artery - 63 mmHg. The patient immediately was transferred to the intensive care unit. Oxygen therapy through continuous positive pressure with nasal catheter (BiPAP) had also been done. Following the treatment administered diuretics, vasodilators, digitalis, antihypertensives, opioid analgesics, the patient's condition improved.

Conclusions. The peculiarities of the case study were: acute pulmonary edema in an chronic hemodialysis hypertensive patient. Early treatment should be instituted because it has a fast evolution and resolves without lasting damages.

Key words: Pulmonary edema, Uremic patients, Hemodialysis, Renal failure

DEPARTMENT OF UROLOGY AND SURGICAL NEPHROLOGY

45. ENDOVASCULAR MANAGEMENT OF A PSEUDO-ANEURYSM APPEARED AS A POST-SURGICAL COMPLICATION

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Co-authors: Dr. Florin Bloj, Dr. Rareș Filep

Scientific adviser: Dr. Mărginean Lucian, *George Emil Palade* University of Medicine, Pharmacy, Science and Technology of Targu Mures

Background. Renal masses are a biologically heterogeneous group of tumors ranging from benign masses to cancers that can be indolent or aggressive. Frequently, tumors are discovered incidentally and are asymptomatic at presentation. All imaging-enhanced solid renal masses are suspicious for renal cell carcinoma. In the case of a renal tumor, the vascular architecture can be modified. The therapeutic behavior is represented by the surgical techniques (total or partial nephrectomy). The most feared complications are severe bleeding that is difficult to control.

Case report. We present a 59-year-old patient known with malignant renal tumor, admitted to Cluj-Napoca Oncological Institute. The patient undergoes surgical treatment, which consisted of anterior renal valve resection and tumor mass resection. Shortly after the intervention, the patient had macroscopic hematuria. A CT scan is performed with contrast substance that reveals vascular lesions suggestive of a pseudoaneurysm / renal arteriovenous fistula. The next step is digital angiography by subtraction (DSA) which indicates the presence of pseudoaneurysm in the renal parenchyma incriminated as a cause of hematuria. Considering the patient's age and the possibility of preserving the kidney, the therapeutic option applied is the endovascular treatment that involves the embolization of the aneurysm. By Zellinger approach is performed the catheterization of the right renal artery and the supraselective catheterization of the aneurysm, followed by embolization using a embolic liquid agent as mixture of Lipidiol and Glubran. The exclusion from the circulation of the aneurysm is obtained and the hemorrhagic (hematuric) source is eliminated. At the control injection the aneurysmal formation is complete occluded, with very good imaging and clinical result. The control angiography after 6 months shows normal renal vascularization.

Conclusions. The therapeutic option of performing a nephrectomy is very aggressive for the patient. Due to the interdisciplinary approach, interventional radiology techniques can offer minimally invasive therapeutic solutions, sometimes unique in rescuing patients.

Key words: renal tumor, angiography, endovascular therapy, embolization, interdisciplinary approach

46. AUTONOMIC NERVOUS SYSTEM RESPONSE AT BOTULINUM NEUROTOXIN TREATMENT FOR IDIOPATHIC OVERACTIVE BLADDER SYNDROME IN WOMEN

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Background. Symptoms of idiopathic overactive bladder (iOAB) affect ~17 % worldwide of women, and its prevalence increases with patient age. Autonomic dysfunction in the genital area can be assessed using sympathetic skin response (SSR). SSR tests can be used for the detection of early iOAB and assessing those likely to be refractory to anticholinergic drugs. Treatments options for iOAB include lifestyle modifications, behavioural therapy, pharmacotherapy, neuromodulation, Botulinum toxin therapy and surgical interventions. The American Urological Association and the European Association of Urology recommend bladder wall injection with Botulinum neurotoxin A (BoNT-A) in women with idiopathic detrusor overactivity who have not responded to conservative treatment.

Case report. Patient I., female, age 31 years, diagnosed clinical with iOAB, confirmed on urodynamics, underwent the SSR investigation for assessment of autonomic nervous system. The patient had been refractory to different anticholinergic drugs and there was no response to conservative therapy for over 10 years. Before injection, patient was asked to complete a 4-day voiding diary, to record the quantification, the frequency of voids, the number of incontinence episodes and the number of episodes of nocturia. The treatment started with antibiotic prophylaxis (ciprofloxacin 1g i/v twice daily) for 1 day before the injection procedure and continued for 3 days after treatment. Saline cystoscopy was performed using a 19-F rigid cystoscope, under i/v anaesthesia. BoNT-A (100 UI) was mixed with 10 ml 0.9 % sodium chloride and administered 1 ml over 20 different sites, each 1 cm apart, supratrigonally, using 18-gauge needle for rigid cystoscopies, inserted 3 mm into the bladder wall. After 2-3h of procedure was a successful demonstration of voiding. The woman didn't develop any adverse effects like urinary tract infection, gross haematuria, injection site pain or urinary retention. Follow-up at 1, 3, 6, 9 and 12 months, with 4-day voiding diaries, clinical and SSR was carried out. Injections increased voided volume >90 ml, decreased urinary frequency, absence of nocturia and improved QoL. Clinical effects of BoNT-A were evident in 1 week and last up to 12 months. The results of SSR before and after a week of injection established the significantly pronounced changes in time taken for the ascending wave A1 (parasympathetic component) comparing with time taken for the ascending wave A2 (sympathetic component). Before injection of BoNT-A mean score was S1A1=0,5sec., S2aA2=0,94 sec., after injection respectively was 0,34 sec. and 1,1 sec.

Conclusions. Botulinum toxin type A might be an alternative to invasive surgery for patients in whom conservative measures for treatment of iOAB have failed. The SSR can serve as a complex diagnostic of iOAB and assessment the efficiency of treatment with BoNT-A.

Key words: idiopathic overactive bladder, Botulinum toxin type A, intravesical injections.

DEPARTMENT OF OPHTHALMOLOGY AND OPTOMETRY

47. OCULAR CHEMICAL BURNS. CASE REPORT.

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Background. Ocular burns represent about 11-22% of ocular trauma. The most affected are young men, 20-40 y. o. These can happen anywhere, at home, work or after physical aggression. The most severe damage is due to acids and alkali. They can destroy limbal stem

cells and produce recurrent epithelial ulcerations, chronic stromal ulcers, deep stromal vascularization and corneal perforation, in this way leading to blindness. Acid ocular burns are produced by: sulfuric acid (battery acid, industrial cleaner), acetic acid (vinegar), hydrochloric acid (chemical laboratories), sulfurous acid (bleach, refrigerant, fruit and vegetable preservative). Alkali burns: ammonia (fertilizers, refrigerants), lye (drain cleaner), lime (plastic, mortar, cement, whitewash), potassium hydroxide (caustic potash), magnesium hydroxide (sparklers, incendiary devices). In our case, patient's burn was due to salicylic acid (a component used for preparing drops to treat dermatomycosis).

Case report. A 42 y.o. male presented to our clinic with right eye pain, redness and decrease of visual acuity for two weeks, when he accidentally instilled a drop of topical dermatomycosis medication (which contains salicylic acid of 10%, ethanol 3%, phenol 1% and preservatives) considering it as artificial tears. That led to severe ocular pain, irritation, watering and photophobia. Clinical examination revealed: VA OD/OS = 0,01/0,67; at slit lamp biomicroscopy - diffuse conjunctival congestion with corneal epithelial defect of 6×5.7 mm involving the central visual axis with swollen rounded edges and surrounding area of corneal edema. After saline wash, the patient started on topical moxifloxacin 0.5%, dexamethasone 0.1%, vitamin C drops, hydroxy propyl methyl cellulose 0.3%, and carboxymethylcellulose gel 1% along with oral doxycycline 100 mg and vitamin C 500 mg., subconjunctival autologous serum and 2 amniotic membrane transplantation were performed. The defect healed leaving behind a macular corneal opacity after a period of 10 weeks, VA OD= 0,16.

Conclusions. 1. Salicylic acid and phenol are frequently used for most dermatological drugs. They affect the ocular surface, causing chemical burns. 2. The release of dermatological drugs similar to ophthalmic solutions in vials is a risk factor for confusing them, especially if the patient has visual impairment, is mentally deficient, or simply is in a hurry. 3. The treatment of chemical burns is very challenging and often ends with blindness.

Key words: ocular trauma, acid burn, corneal transplant

48. SURGICAL TREATMENT IN INDUCED OCULAR HYPERTENSION IN RABBIT

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Background. Nowadays, glaucoma imposes a major issue for public health, representing the second worldwide leading cause of blindness (WHO Resnikoff 2002). It is a group of complex and heterogeneous ocular diseases, characterized by progressive optical atrophy (Almasieh 2012; Yanoff, 2014; Salmon, 2020). Glaucomatous damage is irreversible; therefore understanding its pathology and selection of optimal management minimizes the risk of progression and development of visual loss. That is why the researches continue. We report a case of filtration surgery treatment in experimentally induced ocular hypertension.

Case report. Since for reliable tonometry in awake rabbits, it is advisable to keep the animals as quiet and unfrightened as possible, avoiding excessive manipulation and stimulation, we thought of using Tono-PenXL© Reichert at New Zealand rabbit and to take the measurement of normal IOP (intraocular pressure) after surface anesthesia. An ocular hypertension model in

rabbit was induced by using a model proposed by Hester (1987), Melena (1997), just because using other proposed methods found in literature can block the filtering device. The hypertension was obtained by a local subconjunctival injection of 0,7ml betamethasone suspension in one eye. The procedure was repeated for 3 weeks. The injections were done in aseptic conditions under local anesthesia. It was observed the elevated IOP after the last injection with corticosteroid. After obtained ocular hypertension, it was performed the filtration surgery by implantation of a new design model of antiglaucoma shunt and it was monitoring the IOP postoperative and the ocular status.

Conclusions. We aim to highlight the possibility of using a new device for glaucoma filtration surgery, its influence on IOP and ocular surface. Good results in the experimental implementation of this way of glaucoma surgery seem to be the most important step in treating this pathology except the classic trabeculectomy, which has also limitations.

Key words: glaucoma, surgery, experiment, shunt.

49. OCULAR MYASTHENIA GRAVIS: CASE REPORT

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Background. Myasthenia gravis (MG) is an autoimmune disease in which the patients' immune system, through the antibodies, attack the nicotinic acetylcholine receptors located on the postsynaptic neuro-muscular junction, resulting in fatigability and weakness of skeletal muscles. If weakness is limited only to the extrinsic ocular muscles and to the levator palpebrae superioris, the disease is called Ocular MG. However, ocular muscle weakness can be a debut symptom in the Generalized form of the MG (GMG) as well. Thus, the surveillance of the patient in early stage is essential, particularly during first 2 years, as most of them develop GMG within this period.

Case report. A 52-year-old man was admitted at the Neurology Department with weakness in the upper eyelids, expressed through the reduction of the palpebral fissures, gradually through the first half of the day (blepharoptosis), incapacity to fully open the eyes, moderate diffuse headache, anxiety and difficulty in falling asleep. He presented similar symptoms for about 15 years. In 2009, the patient did an electroneurography of the median nerve, where a positive decrement was registered and the diagnosis of Ocular Myasthenia Gravis was first mentioned. The patient was given treatment with Ipidacrinum, with no positive dynamics. After almost 10 years, in 2017, the patient's general condition worsened, he was not capable anymore of driving, his quality of life has decreased and he addressed the neurologist again. He is tested on the serum antibodies. Both the Anti-acetylcholine receptor (anti-AchR) antibodies and the Anti-muscle-specific tyrosine kinase (anti-MuSK) antibodies were found slightly positive (AchR Ab – 0.25 [normal value <0.2*#93;; MuSK Ab – 0.05 [normal value <0.05*#93;]). After several months, the anti-AchR Ab raised up to 0.52nmol/L. The Tensilon (Neostigmine) test was performed and revealed only a week positive outcome: after administrating 1ml Neostigmine i/m, the palpebral fissures measured 4 mm, compared to 3 mm before the injection. Based on these borderline results, we confirmed the Ocular Myasthenia Gravis form as diagnosis and we added Prednisolone to the treatment, with moderate improvement of the symptoms.

Conclusions. Based on the described evidence, the increase in the concentration of the antibodies against acetylcholine receptors correlate with the development of Myasthenia gravis. The worsening of the patient's symptoms may be associated with inefficient plan of treatment. Being symptomatic despite the treatment with a cholinesterase inhibitor (Neuromedin) demands adding a glucocorticoid drug (ex. Prednisolone).

Key words: ocular myasthenia gravis, anti-acetylcholine receptor (anti-AchR) antibodies, anti-muscle-specific tyrosine kinase (anti-MuSK) antibodies

50. OPTIC NEUROPATHY IN METHANOL INTOXICATION. CASE REPORT.

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Scientific adviser: Cusnir Valeriu, MD, PhD, University Professor, Department of Ophthalmology and Optometry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Background. Methanol toxicity is poisoning from methanol. Symptoms include a decreased level of consciousness, poor coordination, vomiting, abdominal pain, and a specific smell on the breath. It is characterized by acute loss of visual function around 12 to 24 hours after ingestion of methanol. The ocular manifestations of acute methyl alcohol intoxication include decreased visual acuity, areflexic mydriasis, optic nerve atrophy with possibility of complete blindness. Treatment of methanol poisoning include fomepizole or ethanol.

Case report. Patient P., 40 years old. He had addressed to Emergency Department 10 hours after ingestion of methanol. He presented with blurred vision and fatigue. He had no previous history of ophthalmologic problems. The VA was 0,01 in both eyes. Intraocular pressure in both eyes were normal. By ophthalmoscopy, optic disc hyperemia and lack of Optic Nerve Head border. Toxicologist established diagnosis of methanol poisoning after 1 hour. The patient was treated with Dexamethasone 32 mg and cardiac drugs. Despite all treatment that was administered, patient died in 2 hours after he was addressed to hospital.

Conclusions. Optic neuropathy is a severe diagnosis that should be established in time. Early treatment instituted by a serious medical team is essential to avoid complications.

Key words: optic neuropathy, methanol poisoning, ocular impairment.

SURGERY SECTION

DEPARTMENT OF SURGERY NO.1 *NICOLAE ANESTIADI*

51. GALLSTONE ILEUS: IMAGING DIAGNOSIS

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Introduction. Gallstone ileus (GI) is a rare complication of biliary lithiasis, being registered in about 4% as a potential cause of intestinal obstruction (IO). GI is imagistically characterized

by the pathognomonic sign – the Rigler triad (RT): pneumobilia (P), IO signs, calculus (C) in the intestinal lumen, which may be present to varying degrees in various imaging investigations.

Aim of the study. Analysis of the rate of presence of RT elements in the imaging investigations applied in GI diagnosis.

Materials and methods. Retrospective study based on 7 cases with GI treated in the Institute of Emergency Medicine, period 2014-2018. We studied the frequency of the presence of RT: complete or incomplete (no less than two components).

Results. Men - 2 (28.5%), women - 5 (71.4%), average age - 80.1 ± 1.9 (95% CI: 75.39-84.99). M:W-1:2.5 ratio. All patients had aggravated medical history, average Charlson Comorbidity Index was 8.5 points. These data are in accordance with the data of the specialized literature. Abdominal radiography performed in 6 (85.7%) cases, showed only radiological signs of intestinal obstruction (air-fluid levels and arches) in 4 patients (66.6%), which does not indicate the absence of GI. Contrast CT examination, performed in 4 patients (57.1%), recorded complete RT and air in the gallbladder, only in one case (25%). In other 3 cases: P + C (n = 1), signs of IO and C (n = 2), P (n = 1). The presence of at least 2 radiological criteria from RT induces the diagnosis of GI. Basically, we can find the presence of RT elements in 3 CT images: 1 complete and 2 incomplete (75%)

Conclusions. The Rigler triad, according to the literature data, can be omitted in the abdominal radiological examination, being registered at CT with an accuracy of about 75%, so we can assume that CT is useful in the rational diagnosis plan in an elderly patient, presented with signs of intestinal occlusion.

Key words: gallstone ileus, imagistic, Rigler's triad

52. RETAINED ABDOMINAL TEXTILE SURGICAL MESHES: IMAGISTIC SIGNS

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Introduction. Retained textile surgical meshes (TSM) which are left unintentionally in abdominal cavity are a problem despite precautions measures. Being qualified as major medical error, they are rarely reported. The natural evolution of condition is indistinct, whereas diagnosis and treatment are difficult and not standardized.

Aim of the study. To determine typical imagistic signs of textile surgical meshes with other surgical and non-surgical pathologies.

Materials and methods. During a 17 year period nineteen patients with retained TSM were admitted in two Departments of Surgery. Males – 6, females – 13, with median age 32.8 years. Time to readmission after first surgery ranged from 5 days to 15 years. Imaging studies included abdominal radiography, ultrasound scan, and computed tomography.

Results. Transabdominal ultrasound had shown a well-defined mass with a strong posterior shadow. Computed tomography revealed a well-defined „spongiform” mass with gas bubbles inside. In one case the diagnosis was made by upper gastrointestinal endoscopy. Thirteen patients underwent repeated surgery with removing surgical meshes and drainage of

contaminated intra-abdominal collection, one – partial gastrectomy for suspected tumor, and one – endoscopic removing of surgical mesh through stomach.

Conclusions. Retained textile surgical mesh should be considered as a possible diagnosis in any postoperative patient, who presents with signs of peritoneal infection or with abdominal mass. Repeated surgery is usually required for removing surgical meshes from abdominal cavity.

Key words: Textiloma, CT, USG, X-ray

53. DIAGNOSIS AND SURGICAL TREATMENT OF ACUTE APPENDICITIS IN PREGNANCY

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Co-authors: L.Suman, Tatiana Malcova

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Introduction. Acute appendicitis (AA) is the most common cause of acute abdomen during pregnancy. Most signs of appendicitis are not found during pregnancy and diagnosis of appendicitis during this period remains difficult.

Aim of the study. The purpose of this study was to analyze the diagnosis and surgical treatment of acute appendicitis during pregnancy according to the experience of our clinic.

Materials and methods. In this retrospective study 27 pregnant women diagnosed with AA were included, who underwent appendectomy between 2013 and 2019. Patients were evaluated according to age, clinical signs and symptoms, gestational age, laboratory and paraclinical parameters, surgical technique, operating time, morphopathology reports.

Results. The mean age of pregnant women with AA – 26.4 ± 0.9 (95% CI: 24.49-28.23) years. The mean duration of the disease evolution was 12.3 ± 2.1 (95% CI: 8.043-16.59) hours. The most common symptom was abdominal pain (95%). By gestational age: 11 (41%) pregnant women were in the first trimester, 12 (44%) pregnant women were in the second trimester and 4 (15%) pregnant women were in the third trimester. Laboratory data are of major importance in the complex examination: leukocytes on average $14.9 \pm 1.5 \times 10^9 / L$ (95% CI: 11.73-18.12), non-segmented (left deviation) $12.8 \pm 2.1\%$ (95% CI: 8.575-17.11), erythrocyte sedimentation rate – 22.9 ± 2.2 mm / h (95% CI: 18.24-27.55). A special importance is given to inflammatory scores used in the diagnosis of AA in pregnancy. The most commonly used are: Alvarado score indicated an average of 6.6 ± 0.3 (from 4 to 9), Acute Inflammatory Score - 7.9 ± 0.3 (from 6 to 11), mean RIPASA score - $8, 9 \pm 0.4$ (from 6 to 11) and Karaman Score - 9.1 ± 0.5 (from 6 to 12). The surgical interventions: open appendectomy 24 (89%) and 3 (11%) laparoscopic appendectomy. Histological examination revealed: phlegmonous – 23 (85.2%) case, gangrenous 3 (11.1%) case, catarrhal only 1 (3.7%) case. Average duration of hospitalization constituted 4.8 ± 0.3 (from 3 to 8) days. The maternal complication was only in 1 (3%) pregnant.

Conclusions. Diagnosis of acute appendicitis is difficult in pregnancy. Urgent surgery is the treatment of choice and prompt surgical intervention in case of AA in pregnant women is necessary to reduce the number of maternal and fetal complications.

Key words: acute appendicitis; laparoscopic appendectomy, pregnancy

54. SPLENIC ABSCESS, CLINICAL-DIAGNOSTIC ASPECTS

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Introduction. Spleen abscess is a rather rare clinical entity, its incidence detected at necroptic examinations being 0.14–0.7%. Most commonly, spleen abscesses develop in immunocompromised patients (with neoplasms, trauma, metastatic infections, spleen infarction, diabetes, HIV infection, intravenous drug and alcohol users).

Aim of the study. Analysis of the etiopathogenetic factors, clinical diagnostic features and medical-surgical approach in splenic abscesses.

Materials and methods. A retrospective study performed on 16 patients with splenic abscesses treated at Institute of Emergency Medicine from 1994 to 2019. The diagnosis was made over USG and CT. The etiopathogenesis and clinical characteristics, underlying diseases, organism spectra, diagnostic methods, and clinical outcome were analyzed; M:F ratio -7.9:1; mean age – 59.4±13.9 years.

Results. Comorbidities: cardiovascular disease (11), diabetes (4), liver cirrhosis (1), acute pancreatitis (6), cancer (2), abdominal trauma (1). Fever was the most characteristic sign - 13 (81.3%) cases, in only 10 (62.5%) cases was weight loss and pain in the left hypochondrium. The duration of the disease in all cases exceeding 10 days. Local status determines: diffuse peritoneal signs (18.3%, n=3), all operated in emergency, muscle rigidity in the left hypochondria (75%, n=12), splenomegaly (50%, n=8). USG was performed in 11 (68.8%) patients, only in 6 (54.5%) cases, it shows a spleen infarction/collection. Chest radiography was performed in all patients, in about 80% revealing left pleuropulmonary reaction. Abdominal CT was performed in 10 (62.5%) cases, diagnosing spleen abscess in 100%, another 3 cases with diagnosis established by ultrasound and another 3 - established intraoperatively being operated for peritonitis. All patients were splenectomized and were given complex antibiotic therapy. The bacteriology of the purulent liquid was positive in 10 (62.5%) cases, finding *Staphylococcus aureus*, *Serratia marcescens* and *Escherichia coli*, in 2 (12.5%) cases - polymicrobial cultures, in the other 6, the bacteriology was negative. Mortality was 31.3% (n = 5), of which 3 patients died due to erupted abscess with peritonitis, the other 2 because of the development of thromboembolic complications. The average length of hospitalization was 17.4 ± 6.4 days (calculated without patients with lethal outcome).

Conclusions. Splenic abscess is a rare entity with a high mortality rate. The clinical presentation usually non-specific requires the use of diagnostic imaging procedures, CT being the method of choice. Splenectomy still be the preferred treatment, but percutaneous abscess drainage is a hopeful alternative.

Key words: Spleen, abscess, splenectomy

55. EARLY POSTOPERATIVE COMPLICATIONS AFTER GASTRIC BYPASS

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Introduction. Currently, bariatric surgery is the only effective therapy that leads to marked and sustained body weight loss. Although the morbidity rate after gastric bypass dropped, the postoperative complications are still a problem for the surgeons.

Aim of the study. To appreciate the evolution of the first thirty days in patients submitted to the gastric bypass.

Materials and methods. Observational retrospective study. Data of 388 patients with obesity associated or not with comorbidities submitted to the gastric bypass with 30 days follow-up starting from the date of the surgery.

Results. The age average was $40,47 \pm 10,38$ years. The mean preoperative body mass index was $43,83 \pm 8,19$ kg/m². The major complications were fistula (0,26%), gastrointestinal bleeding (3,35%), intra-abdominal bleeding (0,52%), acute gastric dilatation (1,29%), wound infection (2,83%) and deep vein thrombosis (1,55%).

Conclusions. In the period of thirty days after surgery the overall complication rate was 9,8% and death occurred in 0%. Bleeding was the main complication and the leading cause of hospitalization in intensive care unit and reoperation.

Key words: bariatric surgery, gastric bypass, complications

56. MANAGEMENT OF PATIENTS WITH BLUNT THORACIC TRAUMA AND HEMOPNEUMOTHORAX

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Introduction. Trauma is the leading cause of death worldwide. Approximately 70% of polytraumatized patients have thoracic trauma(TT) with variable severity, the pleuropulmonary complications reaching up to 30-45%, depending on the severity of the trauma.

Aim of the study. Analysis of the diagnostic and treatment outcomes in patients with blunt chest trauma and hemopneumothorax(HPT).

Materials and methods. A prospective study, performed on 86 patients with TT and HPT, hospitalized consecutively at Institute of Emergency Medicine in 2019. The epidemiology, trauma-hospitalization time, hospitalization-tube thoracostomy(TThS), ISS score, structure of associated lesions, duration of assisted ventilation, cause, the frequency of repeated of TThS were analyzed.

Results. M:F-3,5:1; mean age- $51,2 \pm 1,8$ years; In 39(45,3%) TT was caused by falling from its own height, in 27(31,4%) – physical aggression, in 14(16,3%) – motor vehicle collision, in 6(7%) – falling from the height. Chest x-ray was performed on 83(96.5%) patients, in 27(32.5%) cases HPT on hospitalization was not found, FAST – 79(91.9%), only in 10(12.7%) cases pleural collections and/or emphysema was found. CT was performed on 19(22.1%) cases, sensitivity 100% for HPT. At 21(24.4%) polytraumatized patients TT was associated with: abdominal trauma in 4(19%), traumatic brain injury(TBI) – 14(66.6%), trauma of locomotor system – 12(57.1%), vertebral trauma – 4(19%). Hemodynamic unstable patients were 3(3,5%), with ISS>25. Were hospitalized in intensive care unit 16(18.6%) patients, 2 were connected to mechanical ventilation(MV) upon admission; 4(25%) for developing ARDS; and 4(25%) for TBI (2 with GCS<10). Unilateral TT was found in 84(97.7%), of which 12(14.3%)

polytraumatized, 19(22.6%) with HT, 42(50%) – PT, and 23(27.4%) with HPT. Bilateral TT – 2(2.3%), in one case with HPT with flail chest, the other case – HT (ISS>20). TThS upon admission was made in 64(74.4%) cases, until 24h at 12(14%) patients and over 24h at 10(11.6%) patients. TThS was performed in all cases, 53(61,6%) cases in the 5th intercostal space, 27(31,4%) for PT in the 2nd and 6(6,7%) in the 2nd and 5th. In one case, videothoracoscopy was performed 17 hours after TThS for haemostasis. TThS was required repeatedly in 3(3.5%) cases. The average length of hospitalization was 8.34±6.6days and depended directly on the associated lesions and the duration of MV. Mortality was 3.5% (n=3), the cause being hypovolemic shock and MODS.

Conclusions. The hemodynamic stability is determining the management of chest trauma and HPT. The thoracic x-ray is negative in about ¼ cases at admission. FAST in hemodynamically unstable patients with TT can appreciate the presence of HPT. Thoracic CT has the biggest sensitivity for HPT. Repeated TThS are determined by MV and the severity of TBI. Morbidity is dependent on pulmonary contusion, prolonged MV, consciousness disorders and late mobilization.

Key words: Thoracic trauma, hemopneumothorax, treatment

57. BLEEDING FROM DIEULAFOY'S LESION: DIAGNOSTIC AND THERAPEUTIC TRENDS

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Introduction. Dieulafoy's lesion (DL) is a rare, potentially life-threatening cause of gastrointestinal hemorrhage, which is characterized by the presence of a unusual large tortuous artery with in the submucosal layer. The lesion predominantly occurs in the proximal stomach (80%), 6cm from the gastroesophageal junction along the lesser curvature. However, it may occur in any part of the gastrointestinal (GI) tract. Extragastric localization are also described in the literature.

Aim of the study. To offer an overview of current data on available diagnostic and therapeutic tools used for patients with GI bleeding resulting from DLs.

Materials and methods. We selected the articles published during the years 2015-2020, from the PubMed database according to the following keywords: „Gastrointestinal bleeding", „Arteriovenous malformation", „Dieulafoy's lesion", „Endoscopic hemostasis” .

Results. According to the latest statistics, DL is responsible for up to 5% of acute GI bleeds. Typically, it occurs in middle-aged men, and can vary from self-limited to massive life-threatening hemorrhage. Esophagogastroduodenoscopy may significantly improve the recognition and management of this pathology. Mechanical hemostatic therapies including endo-clipping and endoscopic band ligation are considered the most effective techniques in controlling bleeding than other endoscopic methods. Pharmacological treatment can be indicated for patients in which endoscopy is contraindicated or for those who are not responding well to other treatments. Surgical resection is reserved for the cases that fail conservative interventions.

Conclusions. Due to large implementation of endoscopic investigations DLs are increasingly identified. Elaboration of standardized diagnostic and therapeutic protocols may improve the treatment quality.

Key words: Gastrointestinal bleeding, Arteriovenous malformation, Dieulafoy's lesion, Endoscopic hemostasis.

58. MECKEL'S DIVERTICULUM – CLINICAL MASKS

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Introduction. Meckel's diverticulum (MD) it is one of the most common abnormalities of the digestive tract, being symptomatic in about 25% of cases, however very rarely diagnosed preoperatively, especially in adults because of various abdominal pathologies it can mime.

Aim of the study. To establish the particularities of the clinical manifestations of MD and the rate of its preoperative diagnosis in adults.

Materials and methods. Retrospective study: 21 patients with MD treated in the surgery clinic "N. Anestiadi" of the Institute of Emergency Medicine, period 2012-2018. Average age - 50.2 ± 3.9 . Men - 11 (52.3%), women - 10 (47.6%), the M/W ratio 1.1:1. Diagnosis on admission: acute appendicitis - 9, intestinal obstruction - 4, colon cancer - 4, hypersplenism - 1, strangulated hernia - 1, cutaneous wound - 1, digestive hemorrhage - 1. From 100% patients undergoing surgery: McBurney access - 9, LMM - 11, treatment of inguinal hernia - 1. Of the total group, mortality constituted 14.2% (3), for non-surgical reasons.

Results. Symptomatic patients - 14 (66.7%), ($p = 0.0629$), of which: men - 5 (35.7%) and women 9 (64.3%). In the rest of the patients, MD was accidentally diagnosed in the interventions for other pathologies. Complications detected intraoperatively in symptomatic patients: diverticulitis - 64.2% ($n=9$), torsion - 14.2% ($n=2$), hemorrhage - 7.1% ($n=1$), Littre hernia- 7.1% ($n=1$) and adhesions - 7.1% ($n=1$). Surgical treatment was applied in all cases of symptomatic MD. Morphology of postoperative sample: length (L) - 5.1 ± 0.6 cm (from 1.5 to 12), thickness (T) - 2.1 ± 0.2 cm (from 1 to 4), L/T ratio - 2.6 ± 0.3 . Histologically in all cases MD was covered with normal intestinal mucosa.

Conclusions. Symptomatic MD rate was 66.7%, the most common complication being diverticulitis. In no case, the diagnosis was established preoperatively. The diagnosis of complicated MD should be considered in adult patients who present with specific data of acute surgical abdominal pathology.

Key words: diverticulum, complication, asymptomatic

59. FECAL MICROBIAL MARKERS–THE ROLE IN COLORECTAL CANCER SCREENING: A REVIEW OF LITERATURE

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Introduction. Colorectal cancer (CRC) is the third most common cancer worldwide, accounting for about 10% of all cancer cases diagnosed annually. Due to the high prevalence of CRC, implementation of a screening program, especially non-invasive would reduce the incidence by eradicating precancerous lesions, as well as mortality by treating the early stages of the disease.

Aim of the study. Presentation of recent information on the role of fecal microbial markers as a non-invasive method in the early detection of CRC.

Materials and methods. 47 literary sources were analyzed, using Medline, PubMed, Google Scholar, Hindawi databases over a 5 year period. Keywords used in the search: microbial markers, screening, colorectal cancer.

Results. Of the 47 articles selected: 16–dedicated to clinical diagnostic methods, 10–regarding the fecal immunochemical test (FIT), 11–regarding the role of fecal microbial markers in combination with FIT, as predictors of CRC and 10–regarding the specificity and sensitivity of the markers fecal microbes in symptomatic and asymptomatic patients. Thus, it was determined that certain bacterial species, such as *Parvimonas micra*, *Solobacterium moorei*, and *Clostridium hathewayi*, are significantly enriched in stool samples from CRC patients, whereas the presence of other bacterial species, such as *Bacteroides clarus* and *Roseburia intestinalis*, is significantly reduced in CRC patient stool. Also, *Fusobacterium nucleatum* is thought to potentiate intestinal tumorigenesis through recruitment of infiltrating immune cells and via activation of beta-catenin signaling. Such increased or decreased presence of these bacterial species results in higher or lower levels of signature DNA, RNA and protein species unique to these species, which in turn can be used for detection, both qualitatively and quantitatively.

Conclusions. This review highlights the effectiveness of non-invasive methods in the early diagnosis of CRC, in estimating the risk of relapse and neoplastic dissemination, as well as the rate of response to adjuvant treatment. Implementing an effective screening program would reduce mortality in CRC, save a significant portion of the resources that would be spent on treating patients in advanced stages of the disease.

Key words: colorectal cancer, fecal microbial markers, fecal immunochemical test.

DEPARTMENT OF SURGERY NO.2

60. CONTEMPORARY TREATMENT METHODS IN ACUTE CHOLANGITIS

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Introduction. Acute cholangitis is a medical emergency and is a potential life-threatening condition, is an infectious process of the entire biliary tree or only of the intrahepatic system developed almost always under the conditions of partial or complete obstruction of the main biliary tract.. If this condition is not treated with antibiotic therapy and the earlier decline of bile pressure, the risk of aggravation of the situation and mortality increases. The actuality of the problem is determined by the increase of the number of diseases of the organs in the hepatopancreatoduodenal area, which are accompanied by a lot of complications.

Aim of the study. Research of surgical tactical opportunities in acute cholangitis.

Materials and methods. Scientific articles were searched in PubMed, Hinari and Cambridge University press databases, using the descriptors "acute cholangitis", "biliary stenting", "naso-biliary drainage". The research was not delimited to a specific time period and was supplemented with bibliographic data from statistical sites, from Ministry of Health, Labor and Social Protection of Moldova.

Results. Reaching positive results in the treatment of cholangitis, is possible by performing the diagnostic and therapeutic maneuvers in stages. A necessary condition is the strict observance of the sequences and the time in each stage by the maximum use of the endosurgical and mini-invasive interventions. Early surgery in acute cholangitis is accompanied by an increased frequency of complications. Advances in therapeutic endoscopy, such as balloon drainage guided by balloon enteroscopy or endoscopic ultrasound-guided biliary drainage, have added new extent for the endoscopic management of acute cholangitis, which avoids the need for more invasive procedures. Bile drainage can be achieved by different methods and procedures: endoscopic, percutaneous and open transhepatic. Endoscopic drainage is associated with a shorter duration of hospitalization and a low morbidity rate.

Conclusions. The treatment tactic in acute cholangitis remains a current problem in hepatobiliary surgery. So far, there are many questions for pathogenesis, diagnosis, treatment and prevention, which need to be solved. Acute cholangitis requires an in-depth multidisciplinary study, which allows the adoption of a correct management for each clinical case, and the application of the stepped treatment tactic will allow us to obtain positive results in this pathology.

Key words: acute angiocolitis, biliary drainage

61. THE UTILITY OF ECHO-DOPPLEROGRAPHY IN THE MANAGEMENT OF PORTAL SPLENOPATHY

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Introduction. Portal splenopathy (PS) is a common complication of liver cirrhosis.

Aim of the study. Examination of the utility and diagnostic performance of portal echo-Dopplerography (PED) for the detection of PS and observation of those patients.

Materials and methods. The retrospective study based on the cases includes 36 cirrhotic patients with PS, admitted and surgically treated within the Clinic. The analyzed data for each studied case were included in an evaluation form, based on the outline of the imagistic aspects of the analyzed lot.

Results. The study group was represented by men (44.2%), women (55.8%) with an average age of 35-45 years and cirrhotic status. Valid PED findings were defined as follows: splenomegaly (mild / moderate / severe - 6/11/19), clinically associated with abdominal pain and distension (63.8%) and hypersplenism (91.7%), portal and splenic vein dilation with sinus varicose veins in hilum (94.4%), splenoportal axis thrombosis (22.2%), ascites (16.7%), hepatomegaly (19.4%), accessory spleen (13.9%), splenic infarction (8.3%), subcapsular hematoma (5.6%).

Conclusions. Ultrasound changes suggestive to the patients with PS are high and correlated with the stage of portal hypertension, having a major impact on their therapeutic management.
Key words: Liver cirrhosis, portal splenopathy, hypersplenism.

62. DIGESTIVE ENDOSCOPY-FIRST INTENTION EXPLORATION OF THE PATIENTS WITH GASTROINTESTINAL BLEEDING OF PORTAL GENESIS

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Introduction. Endoscopic diagnosis is essential in upper gastrointestinal bleeding and has an impact on the therapeutic behavior.

Aim of the study. Evaluation of the digestive endoscopy (DE) input in variceal gastrointestinal bleeding (VGB) of portal genesis.

Materials and methods. We studied the cases of 30 cirrhotic patients, who had variceal gastrointestinal bleeding, in between 2017-2020. We looked into: gender distribution, diagnostic and hemostatic applicability of digestive endoscopy, morbidity and mortality. The hemostasis methods used were: medical therapy (n = 30), associated with endoscopic ligation (from 1 to 3 sessions) in full bleeding (n = 21) and histoacryl injection sclerotherapy (n = 2 cases).

Results. Distribution of cases: HCV/HBV liver cirrhosis (n=11/19), Child B / C score (n=8/22), grade II/III esophageal varices (n=3/25), active variceal gastrointestinal bleeding (n=21), hemorrhagic shock (n=11), previous episode of variceal gastrointestinal bleeding (n=5), major splenomegaly/severe hypersplenism (n = 19), ascites (n = 9). The success rate of endoscopic hemostasis was 96.3%. Intra-hospital mortality was 16.7% (n = 5), associated with Child C score, recurrent variceal gastrointestinal bleeding, hemorrhagic shock.

Conclusions. Digestive endoscopy has an acceptable diagnostic performance of esophageal varices and good hemostatic/prophylactic applicability.

Key words: digestive endoscopy, esophageal varices, variceal gastrointestinal bleeding.

63. PREVENTION AND MANAGEMENT OF DIABETIC FOOT DISEASE

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Introduction. At least half of all amputations occur in people with diabetes, most commonly because of an infected diabetic foot ulcer. Prevention and management of diabetic foot disease can reduce the complications and the number of amputations that will reduce the economic impact and improve the quality of patients life.

Aim of the study. To educate and guide on preventing and right management a diabetic foot disease.

Materials and methods. Identifying the at-risk foot, regularly inspecting and examining the at-risk foot, educating the patient, family and healthcare providers, ensuring routine wearing of appropriate footwear, treating risk factors for ulceration.

Results. The global patient and economic burden of diabetic foot disease can be considerably reduced when evidence-based preventative treatment is implemented in the foot care of people with diabetes who are at risk of developing a foot ulcer. Reducing the risk of ulceration also reduces the risk of infection, hospitalization, and lower-extremity amputation in these patient.

Conclusions. Current treatment recommendations are based on stratified healthcare. Future research is needed to explore the potential of a more personalised medicine approach in diabetic foot ulcer prevention, so to deliver the right treatment, to the right person, at the right time.

Key words: Diabetes, diabetic foot disease, healthcare, ulceration.

64. PRESENTATION OF FOURNIER'S GANGRENE CASES AND PROPER MANAGEMENT

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Introduction. Fournier's gangrene is a serious and potentially lethal rare infection of perineal and external genital with priority to be treated as a medical and surgical emergency. It consists of a rapidly progressive necrotizing fasciitis in the genital, perineal, and perianal region produced by aerobic and anaerobic microorganisms acting synergistically. This disease normally affects males between 50 and 70 years of age with concomitant diseases. It is a disease with high morbidity and mortality (3%-76%), the treatment of which is based on early and radical surgical debridement, broad-spectrum antibiotic therapy, and daily dressing changes which allows for evaluation of the need for subsequent debridement.

Aim of the study. The aim of this study is to highlight the particularities, dynamics, severity and necessity of the rapid management of this disease in the last 5 years around the world in the help of young medical professionals in my country.

Materials and methods. I presented a descriptive and retrospective chart review of patients diagnosed and treated for this pathology over the last 5 years. The patient age, sex, risk factors, laboratory investigations, presenting symptoms, duration of hospital stay, microbiological findings, associated diseases were recorded. The culture was extracted from the pus zone of the abscess.

Results. 3 patients were highlighted with this condition. The average age was 58 years. The clinical presentation was similar; it started as a perianal or perineal phlegmon/abscess with later locoregional dissemination. Fournier gangrene was suspected in all patients prior to surgical treatment, due to both the clinical examination and the imaging tests that were performed. Computed tomography (CT) was performed on admission in all 3 cases; all the cases demonstrated subcutaneous emphysema and multiple air bubbles in the perineum, perianal region and in the ischiocavernosus and bulbospongiosus muscles. A single debridement was sufficient for all the 3 patients. The average stay was 30 days. The infection was polymicrobial in all patients. The organism most frequently isolated was *Escherichia coli*. Multiple antibiotic therapy was used in all patients.

Conclusions. Fournier gangrene has an elevated morbidity and mortality caused by polymicrobial flora with a varied etiology which presents in patients with risk factors. Early diagnosis and rapid, thorough debridement is the most important factor in the management of this disease.

Key words: Fournier gangrene, necrotizing fasciitis, abscess. polymicrobial flora, aerobic , microorganisms , anaerobic microorganisms ,genital , perineal, perianal region.synergy action,associated diseases, risk factors,locoregional dissemination,microbiological cultures, debridement, multiple antibiotic therapy,computed tomography (CT)

DEPARTMENT OF GENERAL SURGERY AND SEMIOLOGY NO.3

65. ACUTE CALCULOUS CHOLECYSTITIS IN THE TIME OF LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction. Acute calculous cholecystitis (ACC) is a frequent pathology, defined as an acute inflammatory condition of the gallbladder in the presence of gallstones. It is one of the most common causes of hospitalization in surgical units. It occurs at any age, with maximum incidence at middle ages. Although the laparoscopic cholecystectomy (LC) nowadays has become a gold standard in the treatment of symptomatic gallbladder lithiasis, its role in the treatment of ACC remains unclear.

Aim of the study. Assessment of the value of laparoscopic cholecystectomy for resolution of ACC.

Materials and methods. A retrospective-prospective study based on 50 patients admitted into the Surgical Department of Municipal Clinical Hospital no.1 during 2018-2019, with diagnosis on admission ACC. The study group composed of 41 women (82%) and 9 men (18%), the W/M ratio being 8/1. The age of the patients ranged from 24 to 85 years, with average 56.8 ± 2.2 years.

Results. Surgical treatment underwent 49 patients. One patient has undergone a primary laparotomy for ACC associated with Mirizzi syndrome diagnosed preoperatively, and 48 patients – LC. In one case, after a diagnostic laparoscopy was taken the decision to refuse from cholecystectomy, due to liver cirrhosis and risk of major bleeding. Forty (80%) patients were operated in the first 72 h after hospitalization, and another 20% of patients – after 72h or more. The latest operation was performed after 14 days of hospitalization, in a patient with severe concomitant cardiovascular diseases. From all of the cases of LC, the conversion was needed in only one patient because of the numerous adhesions with the transverse colon and the paravesical abscess, in a 81 year old patient with Charlson Comorbidity Index 8 points. After all of laparoscopic interventions, the subhepatic space was drained with a tube. The average length of the surgery was 46.2 ± 3.88 min, with The shortest intervention – 15 min., and the longest one – 85 min. The diagnosis of ACC was confirmed in 90% of cases. However, in 10% of cases postoperative pathological examination revealed the diagnosis of chronic cholecystitis. According to AAST severity score, cases of ACC were classified as follow: AAST I - 66%,

AAST II - 26%, AAST III - 2% and AAST IV - 6%. All patients had an uneventful postoperative period.

Conclusions. LC is the most argued method of treatment in the case of ACC, regardless of the patient's age, presenting well-known advantages such as: shortening of the operative time, more favorable postoperative period, minimizing the post-operative complications and reducing the length of hospital stay. ACC underwent surgical treatment within the first 72 hours from the onset seems to be associated with the faster recovery of patients.

Key words: acute calculous cholecystitis, laparoscopic cholecystectomy, conversion, postoperative period.

66. DIAGNOSIS AND TREATMENT OF BENIGN BREAST TUMORS

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Introduction. Breast cancer is detected 3-5 times more frequently in the background of benign mammary glands pathology and 30-40 times more frequently in the background of nodular mastopathies with epithelial proliferation of the mammary glands. The early diagnosis and treatment of these tumors is of incontestable actuality.

Aim of the study. Assessment of the algorithm for diagnosis and treatment of benign breast tumors in women.

Materials and methods. The study represents a retrospective analysis based on the hospital medical records of 80 patients, diagnosed and treated in the department of Mammology no.1 of the Oncological Institute of the Republic of Moldova during January-March 2018. All patients were evaluated in terms of age, risk factors, comorbidities, ultrasound scan and mammography findings, cytology, radiography, histological distribution of the benign processes of the mammary gland (International Classification N 2, Edition II, Geneva, 1984), surgical techniques used, postoperative complications.

Results. Thus, 80 women aged 18-65 years with different histological types of benign mammary tumors: fibroadenoma – 34 (42.5%); adenopapiloma cyst – 12 (15%); fibroadenomatoza – 17 (21.25%); lipogranuloma – 16 (20%); phylloid tumors – 1 (1.25%). Women aged 18-35 years – 26 (32.5%) and 36-65 years – 54 (67.5%). The ratio of left/right breast gland lesions was 34/43 (42.5/53.75%), bilateral affection – 3 (3.75%). The following risk factors were identified in 57 (71,25%) patients: abortions – 23 (40,35%); nulliparous – 23 (40,35%); mechanical trauma – 4 (7,01%); pelvic inflammatory disease – 3 (5,26%); uterine myoma 2 (3,5%); hereditary factors – 2 (3,5%). Significant comorbidities were found in 11 patients. All patients underwent ultrasound scan, chest x-ray, mammography in 2 projections, as well as cytological examination. All patients underwent sectoral resections with the emergency frozen-section pathological examination, followed by repeated morphological study after inclusion in paraffin. In 2 cases repeated morphological examination revealed invasive breast carcinomas, which were resected subsequently. There were no any postoperative complications.

Conclusions. The diagnosis of benign breast tumors is a complex one and includes several consecutive stages. Surgical procedure depends on the nosological form of tumor and is

accompanied necessarily by urgent frozen-section pathological examination, followed by repeated morphological study after inclusion in paraffin.

Key words: benign breast tumor, diagnosis, treatment.

67. MANAGEMENT OF PATIENTS WITH AXILLARY ARTERY LESIONS WITHIN THE SKELETAL TRAUMA

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Introduction. Traumatic lesions of the axillary artery are relatively rare, representing about 15-20% of the total vascular trauma of the upper limb; and only 6% occur after blunt trauma with shoulder dislocation / fracture. Axillary artery lesions can cause threatening ischemia of the extremity that requires urgent surgery for revascularization, with or without graft interposition.

Aim of the study. Evaluation of management in patients with axillary artery lesions due to trauma of the skeletal system.

Materials and methods. Was analyzed prospectively, a clinical series that included 5 traumatized patients with closed lesions of the axillary artery, hospitalized over a period of 14 months. Epidemiology, trauma-surgery time, ISS score, degree of ischemia, vascular reconstruction methods and postoperative evolution were evaluated.

Results. The clinical series included 5 male patients; mean age – 54.4 ± 14.8 years (ranged 29–67 years). In 80% (n=4) trauma was caused by falling from either standing (n=1) or a high level (n=3), and in 20% (n=1) by a road accident. One patient had a multiple trauma, with the ISS score of 19 points. In other 4 patients the value of the ISS score was 9 points. In 80% (n=4), the dislocation of the humeral head was detected, and in another case – the fracture of the humeral neck. Acute ischemia IIA-IIB of the upper limb was established in all patients. One patient was diagnosed with concomitant axillary nerve injury. CT-angiography was used to confirm arterial injury in 2 cases. In 4 cases the time from trauma until vascular reconstruction was less than 10 hours, and in one case – about 48 hours, due to the late presentation. Revascularization was performed by interposition of the saphenous vein (n=2) or the ipsilateral basilica vein (n=1). In the rest 2 patients a segmental resection of the damaged axillary artery was performed with the application of T-T anastomosis. In all cases the postoperative evolution was favorable, with the restoration of the distal pulse. One patient developed pneumonia in the postoperative period. The mean length of hospitalization was 15.3 ± 3.1 days. There were no deaths in our series.

Conclusions. Axillary artery lesions associated with skeletal trauma it is a challenge for the medical staff and require a multidisciplinary approach. Extremity revascularization interventions, either with autologous venous graft interposition or primary repair, are associated with an immediate favorable clinical outcome, ensuring limb salvage.

Key words: skeletal trauma, axillary artery injury, vascular reconstruction

68. CLINIC AND DEMOGRAPHIC CHARACTERISTICS OF THE PATIENTS WITH VARICOSE VEINS AND TYPE 1 REFLUX ACCORDING TO PITTALUGA CLASSIFICATION

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Introduction. Treatment of varicose veins of the lower limbs has undergone significant changes in the last decades. The classification of hemodynamic disorders, proposed by P.Pittaluga (2008), not only reflects the most common types of reflux in varicose veins (VV), but also suggests the optimal curative approach. Type 1 of venous reflux, defined as the presence of varicose tributaries on the thigh / leg with competent saphenous-femoral junction and saphenous trunk, is a less studied form of varicose disease.

Aim of the study. Evaluation of clinical-demographic characteristics of patients with varicose disease and type 1 of venous reflux according to P.Pittaluga classification.

Materials and methods. In the retrospective analysis were included 98 patients (122 extremities with VV in the great saphenous vein system), supposed to clinical, examination, ultrasound imaging and saphenous sparing surgery.

Results. From totality of limbs supposed to saphenous sparing surgery, type 1 reflux was diagnosed in 27 (22, 1%) cases. Other types were: type 3 - 18 (14.7%), type 4 - 47 (38.5%), type 5 - 30 (24.5%) cases. The median age in patients with reflux type 1 was - 44 years (IQR 29-62) vs. 44.6 years (IQR 33.5-55.5) in patients with types 3-5. The distribution of patients by sex did not differ significantly. The mean duration of VV constituted 6.7 ± 4.3 years in case of reflux type 1 vs. 11.73 ± 8.53 years in case of reflux types 3-5. Distribution according to the clinical criteria of CEAP classification in patients with type 1 reflux was: C2A - 11 (40.7%), C2S - 11 (40.7%) and C3 - 5 (18.5%) cases. In patients with reflux types 3-5: C2A - 17 (17.9%), C2S - 45 (47.3%), C3 - 28 (29.4%), C4-6 - 5 (5.2%). The mean value of BMI in patients with type 1 was 24.5 ± 4.8 vs 25.6 ± 5.7 in types 3-5.

Conclusions. About one fifth of patients with VV, supposed to saphenous sparing surgery had isolated reflux in the tributaries of great saphenous vein. Type 1 reflux is characteristic for early stage of VV and is associated with double rate of asymptomatic cases compared to other types of the reflux. Obtained data support the ascending theory of progression of venous reflux and opportunity of saphenous sparing strategies in the management of VV.

Key words: varicose veins, venous reflux, surgical treatment

69. CONSERVATIVE TREATMENT OF SUPERFICIAL VEIN THROMBOSIS INVOLVING SAPHENOUS JUNCTION IN PATIENTS WITH VARICOSE VEINS OF LOWER LIMBS: CASE SERIES

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Introduction. Although the treatment of superficial vein thrombosis (SVT) remains controversial, thrombus extension to the level of sapheno-femoral (SFJ) or the sapheno-popliteal junction (SPJ) usually serves as indication for urgent surgery. Vice-versa, there is a strong evidence about effectiveness of conservative management of junctional thrombosis developed after thermal ablation of saphenous trunk (endovenous heat induced thrombosis).

Aim of the study. Aim of study was to evaluate the results of conservative treatment of SVT involving SFJ/SPJ in patients with varicose veins of lower limbs.

Materials and methods. We retrospectively reviewed the prospectively maintained database of the patients with varicose veins complicated by SVT, treated in the department during the last 3 years. Extension of the thrombus up to the level of SFJ/SPJ (proximal to pre-terminal valve) but without involvement of the deep veins detected by duplex ultrasound was considered as inclusion criteria. Patients supposed to urgent surgical procedures were excluded. Patients were monitored for 3 months clinically and by duplex ultrasound.

Results. From 106 patients (110 limbs) included into database, 15 patients satisfied the inclusion criteria for this study. There were 6 (40%) SVT cases with thrombosis of SPJ and 9 (60%) cases with implication of SFJ. Mean duration of SVT at the moment of admission was 6.5±4.3 days. Decision to treat patient conservatively was done basing on the patient refuse from surgical intervention or presence of important comorbidities. Patients were treated with oral rivaroxaban in the following doses: 20mg once a day 4 (36%) patients and 15mg twice a day 7 (64%) patients. Four patients (26%) were treated in outpatient conditions. The median duration of anticoagulant treatment was 62 days (range 45-180 days 25%-75% IQR 56-104). To the end of 3 months follow-up the complete recanalization of junction and saphenous trunk was detected in 12 (80%) patients, partial recanalization – in 3 (20%) patients. No cases of thrombosis progression, recurrence, development of deep vein thrombosis and symptomatic pulmonary embolism were registered during follow-up.

Conclusions. Initial experience of anticoagulant treatment in case of SVT with involvement of the junctions with deep veins demonstrated safety and efficacy of conservative curative approach.

Key words: superficial vein thrombosis, anticoagulation, varicose veins

DEPARTMENT OF SURGERY NO.5

70. PREOPERATIVE EVALUATION OF PATIENTS WITH THYROID NODULES

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Introduction. Thyroid nodules are common entities that are found in 50% of population. Only a small percentage are considered to be malignant, but even if the majority of thyroid nodules are benign they harbor a malignant potential. The worldwide controversy about these entities is the therapeutic approach regarding which patients require surgical intervention.

Aim of the study. To determine the indications for the surgical treatment of thyroid nodules

Materials and methods. The study was performed on 82 patients with thyroid nodules selected for surgical treatment after a complex assessment. The age of the patients varied from 19 to 69

years old. It was studied family history of thyroid disorders or cancer, results of anterior treatments, clinical signs. Patients were examined by serum tests (TSH, FT3, FT4, anti-TPO, anti-TG, calcitonin), ultrasound, Doppler ultrasound, sonoelastography, scintigraphy, fine needle aspiration-biopsy (FNAB) of thyroid gland, in addition to standard paraclinical investigations.

Results. Indications for surgical treatment resulted from the correlation of following clinical and paraclinical data: nodules one centimeter or larger; nodules with rapid growth during several months or a year; nodules refractory to conservative treatment; nodules associated with globus sensation, dysphagia, pain in the anterior cervical region, cervical adenopathy; nodules with suspicious sonographic features – hypoecogenity, absence of peripheral halo, "taller than wide", intranodular vascularity, rigidity of tissues; scintigraphic cold nodules; cytologic suspicious or malignant nodules; increased levels of serum TSH and calcitonin, positive antithyroid antibodies; anamnesis of thyroid disease or cancer.

Conclusions. The decision for surgical treatment of thyroid nodules must be taken on an interdisciplinary and individual basis after a clinical and paraclinical appropriate evaluation and according to a relevant guideline.

Key words: thyroid nodules, evaluation, surgical treatment

DEPARTMENT OF PEDIATRIC SURGERY, ORTHOPEDICS AND ANESTHESIOLOGY

71. SURGICAL GUIDELINE FOR CHILD'S COMBUSTION OF ESOPHAGUS

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Introduction. Esophageal combustion in children is still representing a potentially fatal emergency and whose medical – surgical management is related to the precocity of the etiological diagnosis, the accuracy of the general and local clinical examination, the judicious choice of complementary paraclinical examinations and treatment techniques. Esophageal lesions in children are the result of peroral ingestion of a chemical. Ingestion of a chemical is usually involuntary. In adult lesions occur mostly in the region of the oral cavity and larynx, while in children they largely affect the esophagus and even the stomach. In children under the age of 2, the intensity of the lesions is higher in the upper third of the esophagus, and in older children its lower third is mainly affected. The critical period is the age of 1-5 years, based on the psychoemotional peculiarities of the child. Clinical evolutionary complications record three periods: acute (2-14 days), acalasia (1 – 2 months), chronic – onset of stenosis with (dysphagia, regurgitation, denutrition).

Aim of the study. Literature analysis of clinical and paraclinical peculiarities, complications and treatment of esophageal burns in children.

Materials and methods. The specialized literature data on combustion in children were analyzed. Studies show that both diagnostic and treatment techniques in esophageal lesions require knowledge on correlations among tissues, organs, and cellular spaces.

Results. The results of the clinical and paraclinical study will contribute to increase safety in approaching diagnostic and treatment techniques.

Conclusions. Knowledge on esophageal combustion from a clinical point of view is very important in view of ensuring the safety and comfort of the patient. The practical value of the correlation between organs and tissues of the given region shows increased interest within the clinic.

Key words: combustion, Esophagus, Children, Surgery, Anatomy

DEPARTMENT OF NEUROSURGERY

72. CLINICAL AND RADIOLOGICAL OUTCOMES COMPARISON OF THE POSTERIOR LUMBAR INTERBODY FUSION WITH CORTICAL BONE TRAJECTORY SCREW FIXATION (MIDLF) AND CONVENTIONAL PEDICLE SCREW FIXATION FOR LOW-GRADE DEGENERATIVE SPONDYLOLISTHESIS.

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Introduction. Pedicle screw fixation is currently the mainstay technique to promote the lumbar spinal fusion, but it has some important drawbacks, including high surgical morbidity, the risk of superior facet violation, significant dissection and muscle damage, frequent screw loosening, and the increased risk of neurovascular injury. Minimally access surgery techniques have evolved in an attempt to reduce these procedure related complications, the Cortical Bone Trajectory (CBT) being one of the most promising of them. Numerous studies have analyzed the biomechanical features of the CBT screws but few studies have examined clinical outcomes in patients and compared them to the traditional technique.

Aim of the study. To compare the effectiveness of the posterior lumbar interbody fusion (PLIF) using the cortical bone trajectory (CBT) and the traditional pedicle screw (PS) fixation techniques.

Materials and methods.. We enrolled 112 patients with degenerative low-grade spondylolisthesis and assigned them to one of the 2 surgical groups: CBT-PLIF (MIDLF) or PS-PLIF. The primary outcome measure was the intervertebral fusion rate, evaluated by thin cut 3D CT-scan reconstructions. Secondary outcome measures included: visual analog scale (VAS) for perioperative back and leg pain intensity, Oswestry Disability Index and 12 – Item Short Form Health Survey (SF-12) scores for functional status improvement assessment, overall patient satisfaction, intraoperative muscle damage (serum CK levels), operative time, total incision length, intraoperative blood loss and perioperative complications. The data were collected prospectively between December 2015 and December 2019. Minimal follow-up period was 12 months.

Results. There were no significant differences in the fusion rates at the 12 months follow-up points. Also, the improvement in pain VAS score and functional status were similar in both groups. Additionally, the CBT group experienced significantly less blood loss, quicker

operative time, significantly shorter incision length, and lower postoperative serum creatinine kinase levels meaning less intraoperative multifidus muscle damage.

Conclusions. Both techniques provided similar clinical outcomes and fusion rates, but the CBT pedicle screw fixation has the additional benefits of a minimal access surgery technique, with less surgical morbidity, less pain and better functional recovery especially early postoperative. We suggest that CBT pedicle screw fixation is a reasonable alternative to the traditional pedicle screw fixation, if used to promote the posterior lumbar interbody fusion.

Key words: cortical bone trajectory, pedicle screw, posterior lumbar interbody fusion, MIDLF, degenerative spondylolisthesis

73. 3D VOLUME RENDERING FOR PREOPERATIVE PLANNING OF NEUROSURGICAL INTERVENTIONS

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Introduction. In Neurosurgery, even with modern diagnostic imaging modalities like CT and MRI, structural information is still usually provided to the neurosurgeon by 2D image stacks, albeit in different planes. The surgeon relies on his spatial-visual imagination of patient-specific anatomy for surgical planning and the surgery itself, which can be challenging. To overcome these limitations, 3D technology has emerged as a technique with the potential to provide to the user detailed information on the three-dimensional orientation of objects within the surgical site before surgery. At present, no special equipment is required to create 3D models, and it is possible by using a personal computer. These models can be used for preoperative planning, such as finding the best cranial approach, avoiding eloquent areas of the brain, measure different structures, or even 3D print the models to simulate the surgery beforehand. By using all these data, the neurosurgeon can achieve the best results with the least complications by choosing the most optimal approach, achieve total removal of a brain lesion with minimal healthy brain involvement.

Aim of the study. Our aim is to show the importance of 3d volume segmentation as a teaching and preoperative tool for neurosurgical interventions and to demonstrate our experience in clinical practice.

Materials and methods.. There are several 3D segmentation software. Due to the availability of fast and affordable technical support, we chose the “Inobitec DICOM” software. The first stage was a semi-automatic voxel approximation of the object, and then, a polygonal grid was generated around the voxel. Multiple objects were fused to form a final 3D scene of the patient-specific anatomy. The models were exported for subsequent editing in external programs, such as “Meshmixer” and “Blender”. This option was needed to use certain features of these programs when viewing, such as variable transparency of objects, step-by-step navigation through the scene, different functions for vertex/object manipulation, and exporting the models to be displayed on mobile phones or other portable devices.

Results. We report a detailed methodology for picture acquisition, 3D reconstruction, and visualization with some surgical examples. We also demonstrate how these navigable models

can be used to build up composite images derived by the fusion of 3D intraoperative scenarios with neuroimaging-derived 3D models.

Conclusions. Our experience, in the Neurosurgical Department, has shown that this is an affordable technology with great opportunities. The models can be used for a variety of purposes (teaching, planning, 3d printing). The creation of individual 3D models for preparation for surgery is already actively used in several areas of neurosurgery.

Key words: segmentation, neurosurgery, 3d printing, reconstruction, planning

74. CRANIAL NEURONAVIGATION IN NEUROSURGERY: USEFULNESS IN RELATION TO TYPE AND SITE OF PATHOLOGY

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Introduction. Neuronavigation is an example of today's technological development applied to medicine that makes it more reliable, transforming surgical interventions into safer and less invasive procedures. Increasingly important is that the use of intraoperative image guidance like MRI, CT facilitates determining the location and the extent of the intraparenchymal lesions.

Aim of the study. The review of various aspects of neuronavigation, including a short history of the synergy between navigation and neurosurgery, as well as technical aspects applied in neurosurgery and clinical benefits in relation to type and site of pathology.

Materials and methods.. The review of literature and neurosurgical case examples of different type and site of pathology..

Results. Studies have shown that the use of neuronavigation improves the extent of resection, which in turn correlates with improved patient outcome and ensures a better preservation of function.

Conclusions. Neuronavigation improves intraoperative topographical orientation in neurosurgery. It is a helpful tool to define approaches, craniotomy flaps, borders of tumor resection or guidance of the endoscope in cases where visible anatomic landmarks are missing. Neuronavigation helps to prevent further neurological deficits making safer, less invasive, and more cost-efficient procedures.

Key words: neurosurgery, neuronavigation, contemporary methods

DEPARTMENT OF UROLOGY AND SURGICAL NEPHROLOGY

75. METHODS OF DIAGNOSTIC AND CONTEMPORARY TREATMENT OF RENAL SOLITARY CYST. CLINIC EXPERIENCE

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Introduction. Renal Solitary cyst is one of the most common kidney pathologies and occurs in 50% of necropsy in people over 50 years of age. Most commonly, cystic formations develop in the kidney, usually asymptomatic. The etiology of renal cysts can be congenital, sporadic or acquired, and their development can occur at any level of nephron or collector tubes. Simple kidney cyst is specific to adult age, is not genetically transmitted, and is not accompanied by another chromosomal abnormality. In children, the incidence is reduced by 0.1-0.45%, but it increases in adult to 20% at 40 years and 33% to 60 years.

Aim of the study. Analysis of the results obtained in the clinic following the treatment applied to patients with solitary renal cysts, treated by the classical surgical method and laparoscopic.

Materials and methods.. The retrospective study was performed in the Department of urology and surgical nephrology of the State University of Medicine and Pharmacy *Nicolae Testemitanu*, within the Republican Clinical Hospital *Timofei Moşneaga*, on a batch of 92 patients diagnosed with solitary renal cyst, treated by different methods (laparoscopic resection, open cystectomy and cyst puncture) during the years 2017-2019.

Results. From the total number of patients according to cyst localization: in 50 (54.3%) of patients the cyst was located on the left side and in 42 (45.7%) of patients on the right side. The distribution by sex was as follows: 48 (52,2%) men and 44 (47,8%) women diagnosed with solitary renal cyst. Anatomical location of the cysts: upper pole 48 patients (51%), lower pole 30 patients (32.6%), mediorenal 14 patients (16.4%). The size of the operated cysts ranged from 3 cm to 10 cm and more. The age of the patients in the study group with solitary renal cyst ranged from 25 years to 78 years, the average being ~ 53 years. According to the Bosniak classification, we observe the prevalence of the classical surgical method in Bosniak cysts III. Laparoscopic method was performed in patients with Bosniak cysts I and II, cyst puncture was performed only in patients with Bosniak cysts I. Of the 92 patients diagnosed with solitary renal cyst in 57 (62%) of them, the laparoscopic treatment method was performed, open cystectomy 23 (25%) patients, and cyst puncture to 12 (13%) patients.

Conclusions. Following this study we distinguish the advantages of the minimally invasive laparoscopic method which is of choice at the present moment, by the minimal aggressiveness of the surgical act, the absence of large postoperative scars, the decrease of the hospitalization period -3-4 days compared to -10-14 days after the open surgical method, minimum number of recurrences, rapid rehabilitation and reintegration into the social life and professional activity of patients.

Key words: renal cyst, laparoscopy, cystectomy, Bosniak classification.

76. THE EFFECT OF WATER INTAKE IN PATIENTS WITH URETEROLITHIAS

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Introduction. It is a standardized approach to treat non- obstructive calculi of ureter by hydrotherapy. In theory, the administration of intravenous fluid bolus stimulate renal fluid flow in patients with ureterolithiasis in time of acute renal colic. Historically hydrotherapy has been adopted in practice as a part of a conservative treatment in the emergency department. Patients are hospitalized for three to four days and every day they are given intravenously four to five litres of fluid along with diuretics in the hope that the stone will be removed. In this research are considered scientific publications about the effect of water intake in patients with ureterolithiasis.

Aim of the study. To determine the efficiency of water intake in patients with ureterolithiasis.

Materials and methods. We performed a PubMed and science direct database to distinguish reviews, original articles and metaanalysis using the search words “fluid intake in renal colic” and “ureteric stone”. We also reviewed national and international guidelines as European Association of Urology (EAU), the Cochrane Collaboration (two studies Edna 1983 and Springhart 2006) and clinical evidence databases.

Results. During the research, we revealed that: on the one hand in the Cochrane studies where compared the use of high-volume fluid therapy, diuretics with minimal or no fluids and obtained that hydrotherapy has not been shown to improve pain control, stimulate ureteral stone passage, or necessary of surgical stone removal. On the other hand leading to high intrarenal pressure may occur complications such as rupture of ureteral wall or renal impairment, forniceal tears and perirenal collections. In according to EAU and Urology practice conservative management in patient who have initial presentation for episode of acute ureteric colic and single non- obstructive calculus situate distal to renal calyx is pain control, hydration and anti-emetics. If diagnosis confirmed with non-contrasted computed tomography (NCCT sensitivity 94-100% and specificity 92-100%), intravenous pyelogram (51-87% and 92-100% respectively) and doppler ultrasound, urography (sensitivity of 44-77% and specificity of 80-87%) Other reviews and articles are advised intake small amounts of fluids at frequent intervals. Patient is recommended enough oral fluids to produce 2.5 liters of urine; with probability of spontaneous calculus clearance based on stone size, the rates were 76%, 60%, 48%, and 25% for 2-4 mm, 5-7 mm, 7-9 mm, and >9 mm diameters, respectively.

Conclusions. Based on the foregoing we can confirm forced intravenous hydrotherapy is a common practice, but unscientific, because delays calculus clearance. As well as have shown no benefits still may have significant side effects.

Key words: ureteral colic, fluid intake, urolithiasis

77. EARLY OUTCOMES OF TRANSURETHRAL THULIUM LASER VAPOENUCLEATION OF PROSTATE

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Introduction. Surgical treatment of large benign prostatic hyperplasia (BPH) remain an important problem in endourology. Open surgical procedures are still used to treat patients with BPH. Surgical trauma and numerous contraindications make it useless in many patients with comorbidities. A small number of endourologic procedures offer the possibility to treat large BPH. Thus, laser surgery seems to be a salvage treatment for patients with contrindications for classical open surgery.

Aim of the study. The efficiency assesment of transurethral Thulium YAG laser vapoenucleation of prostate (ThuVEP).

Materials and methods. 16 patients with average age of 71 years underwent surgical treatment of large BPH. All of them underwent ThuVEP. A 550 micron end fire laser fiber was used during vapoenucleation. 80W power setings were used in all of the patients. The period of surveillance was of 6 months. Preoperative investigations: PSA, IPSS, QoL, TRUS-P with

PVR and Qmax. Patients inclusion criteria: Prostate Volume $\geq 80\text{cm}^3$, IPSS ≥ 16 and PVR $\geq 50\text{ml}$, PSA $\leq 4\text{ng/ml}$, QoL > 4 .

Results. Average duration of intervention: 76 min. The prostate volume decreased postoperative on average from $83,2\text{ cm}^3$ to $35,4\text{ cm}^3$, there was an increase of average Qmax from 8,2 to 19.3 ml/s, a decrease in mean IPSS from 21,3 to 7,1, and PVR diminished from 69,1 ml to 16,1 ml. The period of transitional macrohematuria was 2,1 days. The duration of cateterization was 2,5 and mean hemoglobin drop was 2,1 g/l.

Conclusions. ThuVEP is an effective method for endourologic treatment of large BPH. Immediate postoperative results of ThuVEP are promising. It is to mention a high haemorrhage safe features of ThuVEP.

Key words: Thulium: YAG laser, vapoenucleation, prostate

78. EFFICIENCY OF USING COMBINATIONAL DRUGS IN TREATMENT OF URINARY LITHIASIS

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Introduction. Urinary lithiasis is a major global health problem with a prevalence of 2-3% of general population and a lifetime recurrence rate about of 50%. In the Republic of Moldova, 10% of the whole population suffer from this disease. The surgical treatment of urolithiasis is making conditions for improving urodynamics and reducing inflammatory process. Taking into consideration the high recurrence of urolithiasis, patients suffering from this disease need adequate and long-term treatment. Thus, safe and effective nonmedicinal prevention strategies are needed.

Aim of the study. Evaluation of the efficacy of the combination drugs in treatment of urolithiasis after extracorporeal shock wave lithotripsy, ureteroscopy, percutaneous nephrolithotomy in removing of the restant fragments

Materials and methods.. The research included 60 consecutive cases of the urolithiasis treated during 01 february2019-31 mai 2019. The study was effectuated in the Department of urology and surgical nephrology of the State University of Medicine and Pharmacy "Nicolae Testemitanu", within the Republican Clinical Hospital "Timofei Moşneaga". Patients were randomly divided in two groups. Group I(group of study) included 30 patients who administrated the combination drugs(citrate, magnesium, pirodoxin). Group II(control group) included 30 patients who took only general recommendations like adequate hydration, diet, limited caffeine etc.

Results. The average age of the patients with urolithiasis was $47,17\pm 14$ years. In the Group I before administration of combinational drugs urine pH level was $6,2\pm 0,8$, after administration $7,1\pm 0,3$. The level of magnesium was increased: before administration $3,1\pm 1,57$ after $,9\pm 2,2$ mmol/24h. The obtained results confirm increase of daily diuresis 2275 ± 257 ml vs 1580 ± 321 ml; $p < 0,05$. The presence of renal colic during the expulsion of disintegrated fragments in $1,8\pm 0,3$ cases was in the Group I and in $6,7\pm 0,8$ in the Group II. In the group of study the VAS score was 4 points, in comparison 7 points in control group.

Conclusions. Administration of combined drugs increase daily diuresis, level of magnesium and level of urine pH which is going to alkalization of urine as a result of expulsion of desintegrated fragments was increasing, as well as reduced attacks of renal colic.

Key words: urinary stone disease, treatment, combination drugs, urine pH

79. TREATMENT OF KIDNEY CANCER

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Introduction. Renal cell carcinoma is the most common type of kidney cancer in adults. It accounts for approximately 3% of adult malignancies and 90-95% of neoplasms arising from the kidney. In recent years, several approaches of active and passive immunotherapy have been studied extensively in clinical trials of patients with RCC. Recent advances in molecular biology have led to the development of novel agents for the treatment.

Aim of the study. To describe the contemporary standard of treatment for kidney cancer, and their comparison with the classical methods of treatment, the current standard of care, the role of prognostic criteria, such as those from the International Metastatic Renal Cell Carcinoma Database Consortium (IMDC) criteria.

Materials and methods. The study presents the magazine of literature (Medline, Scopus, PubMed, School google, etc.)

Results. Radical nephrectomy remains the mainstay of initial treatment for patients with renal tumours without evidence of metastatic disease. The goal of partial nephrectomy is the complete elimination of the primary tumor, while maintaining the highest possible amount of parenchymal renal health. Partial nephrectomy is indicated for the patient with T1 tumors (according to TNM staging for international cancer control) and a normal contralateral kidney. In patients with unresectable and/or metastatic cancers, tumor embolization, external-beam radiation therapy, and nephrectomy can aid in the palliation of symptoms caused by the primary tumor or related ectopic hormone or cytokine production. The drugs used in chemotherapy are floxuridine, 5-fluorouracil and vinblastine. But unfortunately, these drugs are proven resistant to renal cell carcinoma. In contrast with chemotherapy, targeted treatments attack specific molecules and cell mechanisms which are required for carcinogenesis and tumor growth. This specific targeting helps to spare healthy tissues and reduce side effects. Targeted cancer therapies may be more effective than current treatments and less injurious to normal cells. Research has revealed that addition of these targeted treatments to immunotherapy, or using them as a substitute of immunotherapy, nearly doubles the time duration so as to stop cancer growth. Systemic therapy in metastatic renal cell carcinoma includes Sunitinib and pazopanib that are approved treatments in first-line therapy for patients with favorable- or intermediate-risk clear cell RCC. Temsirolimus has proven benefit over interferon-alfa in patients with non-clear cell RCC. Systemic therapy has demonstrated only limited effectiveness. New agents including the small molecule targeted inhibitors like sorafenib, bevacizumab, axitinib and the monoclonal antibody bevacizumab have shown anti-tumour activity in randomised clinical trials and have become the standard of care for most patients.

Conclusions. For patients with surgically resectable RCC, the standard of care is surgical excision by either partial or radical nephrectomy with a curative intent. By contrast, those with

inoperable or metastatic RCC typically undergo systemic treatment with targeted agents and/or immune checkpoint inhibitors.

Key words: kidney cancer, treatment, nephrectomy

80. BLADDER CANCER RISK FACTORS AND PREVENTION

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Introduction. A great number of bladder cancer cases are due to the carcinogenic substances that affect the bladder urothelium, which is eliminated with urine. The risk factors (smoking, occupational factors, infections, inflammation, radiation exposure and others) play a major role in tumor development and progression. This cancer type shows the highest incidence, reported within an occupational environment (Dye industry employees). Moreover, it is the first evidence-based cancer that has proven an infectious etiology of the *Schistosoma haematobium* parasite, as well as the interaction between exposure to environmental factors and genetic polymorphism has been demonstrated. The environmental harmful substances, toxic workplace conditions and lifestyle particularities might increase the risk of bladder cancer.

Aim of the study. To assess the risk factors in patients diagnosed and treated for bladder cancer.

Materials and methods. Over the 04.2018 - 06.2019 period, 103 patients diagnosed with bladder cancer were admitted within the Urology Clinic of "N. Testemitanu" SUMPh. The risk factors, living conditions, age and other parameters were analyzed.

Results. Out of 103 patients, 28 (27.2%) were females and 75 (72.8%) were males. The most vulnerable studied age-groups was over 60 years, whereas the mean age was lower in men-64.7 years (from 28 years to over 80 years) and 68.2 years (from 41 to over 80 years) was for women. According to the patient's residence place, the study results were as following: urban-62 cases (60.2%) and rural 41 cases (39.8%). Out of 103 patients, 48 (46.6%) patients used tobacco, of which 10 -women (35.7%) and 38- men (50.7%). According to the occupational factors (i.e. dyes, rubber, textile, furniture and other industries), 9 (8.7%) patients out of 103 were identified, 2-women and 7- men. No patients with infectious etiology of *Schistosoma haematobium* parasite were reported, which are more commonly encountered in endemic areas.

Conclusions. Based on the aforementioned data, it should be mentioned that bladder cancer occurs more often in men with a mean age over 65, particularly from urban areas. The main risk factors for developing bladder cancer are as following: smoking and other harmful habits, occupational factors, infections, inflammation, radiation exposure, etc. The preventive measures consist of minimizing the risk factors. Smoking cessation is the most effective measure to prevent bladder cancer. The improvement of working conditions and protective measures might also prevent certain cases of occupational exposure. A total water intake of 2 litres per day, as well as frequent urination (more than 4 times a day) are crucial.

Key words: bladder tumors, risk factors

81. SECONDARY TRANSURETHRAL RESECTIONS OF NON-MUSCLE INVASIVE BLADDER TUMORS

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Introduction. The treatment requirements for high-grade Ta, T1 and T2 bladder cancers differ considerably, thus a correct disease staging is extremely important. The disease staging is often underestimated during primary resection. Upon the histological assessment of T1 bladder cancer, the probability of detecting a muscle-invasive bladder cancer after a secondary resection ranges between 1.3% to 25% and it might increase up to 45% in absence of detrusor muscle fragments at first morphopathological examination. Secondary bladder resection might enhance a relapse-free patient survival, improve BCG treatment outcomes and yield significant prognostic data.

Aim of the study. To evaluate secondary transurethral resections of the bladder tumors in order to assess the treatment outcomes.

Materials and methods. Over the January 2018 - August 2019 period, 54 patients underwent a secondary transurethral resection at the Urology Clinic of "N. Testemitanu" SUMPh. The data analysis of the performed interventions, histopathological examination, disease staging and dynamic assessment of the patients was carried out.

Results. The histopathological examination identified detrusor muscle after a primary resection in 72% cases. The secondary resection revealed residual tumors in 28% patients with Ta stage and in 35% patients with T1 stage. 68% of residual tumors were detected within the initial resection area. The progression and staging of the pathology were found in 7% (from Ta to T1) and in 11% (from T1 to T2) cases.

Conclusions. Residual tumors commonly occur following a transurethral resection of high-risk non-muscle invasive bladder cancers. The secondary resection procedure helps in diagnosing residual tumors and may improve the treatment outcomes, which have been initially assessed as T1 stage.

Key words: bladder cancer, staging progression, detrusor muscle, secondary (repeated) resection.

82. LASER HO-YAG VERSUS TRANSURETHRAL INCISION OF PROSTATE (ITUP) IN TREATMENT OF PROSTATE SCLEROSIS AREAS AFTER CHRONIC PROSTATITIS.

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Introduction. Nowadays, patients suffering from the sclerosis of prostate became a global health problem. The main trigger factor is the presence of chronic prostatitis. This is a

consequence of the inflammatory process in prostate, with structure damage tissue. Finally the damaged areas are substituted with fibrous tissue, causing developing of sclerosis in prostate. The surgical treatment of prostate sclerosis should have maximal excision of prostate tissue and minimally temperature impact on surrounding tissue.

Aim of the study. Evaluation of the efficiency Ho-YAG laser versus ITUP incision in treatment of prostate sclerosis after chronic prostatitis.

Materials and methods.. The 46 of patients were selected with the defined diagnosis with sclerosis of prostate after chronic prostatitis during the period from 2018 till 2019. The study was conducted in the Department of urology and surgical nephrology of the State University of Medicine and Pharmacy "Nicolae Testemitanu", within the Republican Clinical Hospital "Timofei Mosneaga". The patients were divided into 2 groups depending on the method of treatment: a control group consisted of 23 patients who underwent ITUP incision and a main group 23 patients were conducted using incision with Ho-YAG laser .

Results. Surgical treatment was successfully performed for all cases. There were no major intra- or after surgery complications. During all procedures, blood loss was insignificant and no patient required blood transfusions. Also, there were no cases of urinary tract infection, sepsis, bleeding or urinary retention. All patients were able to void spontaneously and was no detected urinary retention or incontinence after catheter removal. Four patients were presenting moderate irritative symptoms (dysuria, hesitance and frequency) and were treated conservatively, with no further complications. In all prostate cancer cases, the pathological specimens were negative for malignancy. The mean operating time was 20 minutes (range 15 to 35 minutes), the duration of catheterization period was 48 hours (range 24 to 72 hours) and the mean hospital stay was 72 hours. Preoperative and at 1, 3 and 6 months after surgery, the mean values for Qmax, were 6.2 ml/s, 15.9 ml/s, 15.8 ml/s and 15.4 ml/s, respectively.

Conclusions. The results clearly demonstrate the advantages of using laser energy for treatment of prostate sclerosis compared to ITUP, with significant increase in scores on the IPSS and QoL, maximum urinary flow rate, and a decrease in residual urine volume and frequency of relapses in the group carried out the laser dissection of prostate sclerosis.

Key words: Ho-YAG laser, prostate sclerosis, chronic prostatitis

83. THE PERCUTANEOUS NEPHROLITHOTOMY. ONE YEAR CLINICAL EXPERIENCE

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Introduction. Percutaneous nephrolithotomy (PCNL) is a minimally-invasive procedure to remove kidney stones by a small incision through the skin in lumbar region, up to 2 cm. This procedure is accepted as standard of care for patients with kidney stones that are large, very firm, or resistant to other forms of stone treatment, and it has replaced open operations for kidney stones in the vast majority of patients. The benefits of PCNL: Are the greater than 97% post-procedure stone free rate less post-operative pain and fewer complications as compared to open surgery, due to minimally invasive access to the kidney, quicker return to daily activities and work, better stone free rates post-procedure for larger and more complex stones

as compared to less invasive options (ESWL and uretheroscopy). The tubeless PCNL offers patients the benefits of no urine leakage, no discomfort from an external drainage tube.

Aim of the study. Analysis of the results obtained in the clinic following PCNL intervention applied to patients with urolithiasis, during one year.

Materials and methods.. The study was performed in the Department of Urology and Surgical nephrology of the State University of Medicine and Pharmacy "Nicolae Testemitanu", within the Republican Clinical Hospital "Timofei Moşneaga", on a batch of 43 patients with the diagnosis of Urolithiasis, treated by the (PCNL), during the year 2019. Patients were subjected to a cross-sectional study (extraction of data from the hospital patient's medical record).

Results. The gender distribution of patients was as follows: 29 (67,5%) women and 14 (32,5%) men diagnosed with urolithiasis. The average age of the patients was : 55 years Anatomical distribution of renal stones: right kidney 21 (48,9%) patients, left kidney 22 (51,1%) patients. The stone's dimensions ranged from 2 cm up to massive staghorn stones(> 4,5cm). The postoperative hospitalization period on average was 5 days. The localization and size of calculi were as follow: Renal pelvis 18 (41,8%) patients, caliceal stones 16 (37,2%) patients, staghorn stones 9 (21%) patients. Stones dimensions: 2-2,5 cm-18 (41,86%) patients; 2,6- 4 cm -16 (37,2%) patients; >4,5cm – 9 (20,93%) patients. The stratification of the surgical postoperative complications was done according to the Clavien-Dindo score. CDS I, 31 (72,1 %); patients CDS II, 5 (11.6 %) patients, CDS III, 3 (7 %) patients. Patients with CDS IV and V, were not detected. From the group of patients, 3 (7%) of them were tubeless and 1 (2,3%) patient with two puncture channels.

Conclusions. The success of PCNL is dependent on many factors such as stone composition, stone size, number of stones, location within the urinary tract, patient body habitus (obesity), and anatomy of the collecting system of the kidney. Surgeons carefully consider all of the aforementioned variables in order to maximize success of PCNL . Overall stone free success rate is approximately 90% following an initial PCNL and 90-100% following a “second look” procedure.

Key words: PCNL, urolithiasis, Clavien-Dindo score, staghorn.

84. COMPARATIVE EPIDEMIOLOGY AND RESISTANCE TRENDS OF COMMON URINARY PATHOGENS

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Introduction. Urinary tract infections (UTIs) are some of the most common infections in human medicine, affecting a large patient population (around 150 million cases/year) to various extents, irrespective of age and gender. The principal cause of UTIs (>80%) are uropathogenic *Escherichia coli* and *Klebsiella* species both in the community and nosocomial settings. The assessment of local data on the prevalence and resistance is essential to evaluate trends over time and to make adjustments on the empirical treatment protocol.

Aim of the study. Assessment of epidemiology and resistance trends of most common urinary pathogens in order to create a hospital-specific antibiogram and practical recommendation on first chose antibiotics for empirical and prevention treatment.

Materials and methods.. A retrospective record review of data collected from laboratory results of 1299 patients admitted to the Urology Department of Republican Clinical Hospital between April 2019 and October 2019 was done. The outcome of interest was the antibiotic susceptibility of bacterial isolates from the patient's urine probes, before or after planned surgery. Pathogens the selection was done according to the highest incidence observed: Escherichia Coli, Klebsiella pneumonia, Proteus Mirabilis and Pseudomonas aeruginosa. The isolates were analyzed for susceptibility and resistance to 4 antimicrobial groups (Cephalosporins, Carbapenems, Fluoroquinolones, Aminoglycosides) and 3 miscellaneous agents (Nitrofurantoin, Fosfomycin trometamol, Trimethoprim-sulfamethoxazole).

Results. A total of 221 (17%) isolates from urines, of 4 selected bacteria were analyzed: Escherichia Coli (43.43%), Klebsiella pneumonia (33.48%), Proteus Mirabilis (12.66%) and Pseudomonas aeruginosa (5.88%). According to received data, the highest susceptibility for Escherichia Coli, Klebsiella pneumonia and Proteus Mirabilis it was for Fosfomycin with 92.7%, 63.51% and 89.28 respectively. Pseudomonas aeruginosa sensitivity it was highest for Amikacin followed by Carbapenems and Cefalosporins with 76.92%, 61.53% and 53.84% respectively. Klebsiella pneumonia was found with the lowest susceptibility to Cephalosporins (29.72%), Fluoroquinolones (27.02%) and Nitrofurantoin (18.91%) – those antibiotics that are most commonly used as prophylaxis and empirical treatment. If we consider the general impact of Amikacin on selected bacteria, we see that almost 75% of all isolates are sensitive to it.

Conclusions. Statistically significant increases in resistance to commonly used antibiotics were observed. In this respect, we consider that the choice of empiric antibiotic therapy should be selected based on local susceptibility profiles. The choice of antimicrobial drugs should be reconsidered when it comes to prevention or empiric treatment, as most commonly used groups of antibiotics are no more effective. From this specific study, we can conclude that Amikacin and Fosfomycin trometamol should be considered as first chose antibiotics for empirical and prevention treatment.

Key words: Urinary tract infection, antibiotics, resistance, epidemiology, fosfomycin, amikacin, Escherichia coli, Klebsiella pneumonia, Proteus Mirabilis, Pseudomonas aeruginosa.

85. PARTICULARITIES OF THE EVOLUTION OF ACUTE OBSTRUCTIVE PYELONEPHRITIS IN PREGNANCY

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Introduction. From the common complications of pregnancy, most often infections of the urinary tract (UTI) are met, these due to physiological and anatomical changes during pregnancy, which mostly leads to the development of urinary tract infection. Another important factor is the pregnant uterus that mechanically compresses the ureters and leads to urinary stasis.

Aim of the study. Evaluation of the particularities of the evolution of acute obstructive pyelonephritis in pregnancy, the influence of infections on gestational duration, on childbirth and the particularities of the diagnostic plan.

Materials and methods.. The study selected information from the medical record and perinatal notebook of each pregnant woman who is urgently hospitalized in the Urology Department of

the Municipal Clinical Hospital "Sf.Treime". According to the protocol, the examination plan was: anamnesis, the history of the current disease, pathological history; paraclinical investigations: general blood analysis, general analysis of urine, biochemical and functional renal samples; imaging investigations: ultrasound.

Results. All pregnant patients with acute obstructive pyelonephritis hospitalized in the Municipal Clinical Hospital "Sf.Treime" were between 20 and 34 years of age, the studied group comprised 34 pregnant women, so 23 pregnant women were primiparous, and 11 - multiparous. According to the protocol, 18 patients initially experienced lower back pain, fever - 22 cases, nausea – 10 cases, vomiting – 8 cases. Also, the initiated treatment consisted of cephalosporin antibioticotherapy and the installation of JJ stent over a period of 14 days under the supervision of the gynecologist.

Conclusions. 1. Treatment of Acute Obstructive Pyelonephritis in pregnancy is an emergency one. 2. The determination of the pathogen by taking uroculture in the Emergency Department would result in more effective treatment, by isolating the pathogen and continuing monotherapy. 3. Draining urine from the source of infection should be carried out urgently, preferring minimally invasive and continued hydroelectrolytic rebalancing methods. 4. In case of installation of JJ stent, this is also a source of infection, the duration of antibioticotherapy should be extended. 5. Patients also require monitoring in the post-partum period, as the atonia of the ureters persists up to 5 weeks post-partum.

Key words: pyelonephritis, urinary tract infections, pyelonephritis in pregnancy.

86. ROLE OF STONE DENSITY IN PREDICTING THE OUTCOME OF EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (ESWL) FOR KIDNEY STONES

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Introduction. Since its introduction by Chaussy in 1980, ESWL, as minimally invasive procedure, is considered to be the best for the management of urolithiasis in most patients, especially when the stones are of <2 cm in diameter. Computer tomography (CT) has long been used clinically to evaluate the calculi by using measurements of substance density in Hounsfield units (HU). Stone density on CT is reported to be a prognosis factor for ESWL.

Aim of the study. To evaluate the usefulness of measuring stone density for predicting the outcome of treatment by ESWL and number of sessions.

Materials and methods.. The study included 33 consecutive patients (21 males, 12 females; mean age: 47.7) with a solitary renal stone of 0.5–2.0 cm in length. The measurement of density was performed using a multidetector row CT scanner at 120 KV and 240 mA, with 1.25-mm collimation. A bone window was used to measure stone attenuation values. SWL was performed with an electromagnetic lithotripter. Failure of disintegration was defined as no fragmentation of the stone after three sessions.

Results. Failure of disintegration was observed in 7 patients. Stone density >1200 HU were the significant independent predictors of failure. The success rate of ESWL was 87.5%. 26 patients were stone free and 7 had residual fragments <4 mm. The only significant predictor of residual fragments was stone density ($p < 0.001$).

Conclusions. The use of CT to determine the density values of urinary stones before ESWL can help predict treatment outcome, and also in planning alternative treatment in patients with a likelihood of poor outcome from ESWL.

Key words: urolithiasis , ESWL, stone density

87. EPIDEMIOLOGICAL ASPECTS OF POSTOPERATIVE LUMBAR INCISIONAL HERNIAS .

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Introduction. Incisional lumbar hernia is a complication of 17.1% of the surgery on the kidneys and ureter and constitutes 8% of the total hernias of the antero-lateral abdominal wall.

Aim of the study. Evaluation of incidence of lumbar incisional hernias following urological surgery and establishment of epidemiological data for a period of 1 year.

Materials and methods.. The study developed 32 care patients who underwent surgery on the kidneys with dynamic surveillance up to 12 months. In the case of studies or evaluation of indices such as serum glycemia, the diagnosis of obesity has been established, through the use (BMI) and anthropometric indices of patients.

Results. Results. The study shows that in 94% of patients the risk of developing postoperative hernias is increased in the first year after the surgery, considering a significant exceedance of BMI standards, positive uroculture, the presence of diabetes or high blood sugar levels. Thus, the study shows that the lumbotomy failure rate represents 11% of the cases.

Conclusions. The incidence of incisional hernias at 6 months was 10%, at 12 months the incidence of 18%. The postoperative evolution of patients at increased risk of herniation is uncertain and depends on the presence of risk factors such as diabetes, obesity, anthropometric indices. Diabetes has a significant value in the diagnosis and prophylaxis of incisional hernias.

Key words: incisional hernia, obesity, diabetes, risk factors, lumbotomy

88. AZOOSPERMIA WITH KNOWN CAUSES – A RETROSPECTIVE ASSESSMENT OF CLINICAL DATA WITHIN A 1 YEAR PERIOD

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Introduction. Azoospermia, the absence of sperm in ejaculated semen, is the most severe form of male-factor infertility and is present in approximately 5% of all investigated infertile couples. This condition can be classified as non-obstructive azoospermia (NOA, associated with spermatogenesis failure), and obstructive azoospermia (OA, characterized by an obstruction in the seminal tract and normal spermatogenesis). Whereas NOA accounts for 60% of azoospermic patients, OA accounts for around 40%. A precise diagnosis of azoospermia and systematic evaluation of the patient to establish the disease aetiology are needed to guide

appropriate management options and to determine the associated cost benefits, risks and prognosis for treatment success.

Aim of the study. Assessment of clinical data of azoospermia males evaluated during 2019 to show aetiology factors distribution within included patients.

Materials and methods.. A retrospective record review of data collected from 46 azoospermic males was done. The mean age of infertility patients was 31.3 ± 5.2 years. All participants were examined using a standardized andrology workup, accompanied by a structured medical interview. The hormonal analysis included serum FSH, LH and testosterone and genetic assessment (AZF, CFRT and Karyotyping) was done. The diagnosis of azoospermia it was confirmed by centrifugation of a semen specimen for 15 min at room temperature with high-powered microscopic examination of the pellet and a centrifugation speed of at least 3,000 rot/min. TESE outcome and histology investigation of biopsies it was used for final distribution of the patients.

Results. 21 (45.65%) patients with normal testis size, normal hormonal profile and no genetic defects were diagnosed. In this group, TESE outcome it was successful for 16 (76.19%) patients with normal histology exam, 3 (6.52%) patients with unsuccessful TESE outcome and meiotic arrest on histological results, and 2 (4.34%) patients with unsuccessful TESE outcome and no data on histologic phenotype. 17 (36.95%) patients with bilateral or unilateral testis atrophy, abnormal hormonal profile and no genetic defects. In this group just for 5 (29.41%) patients it was performed TESE and all 5 patients were found with negative sperm extraction and histologic phenotype – mixed atrophy and Sertoli cell-only syndrome. In the same group 10 (21.73%) patients with the history of Mumps orchitis in the post-pubertal period, bilateral testis atrophy and hypergonadotropic hypogonadism. 8 (17.39%) patients with genetic defects: 4 (8.69%) with Klinefelter syndrome, 3 (6.52%) with AZF deletion (1 patient with AZFa deletion and 2 patients with AZFbc) and one patient with CFTR mutation.

Conclusions. Patients with bilateral or unilateral testis atrophy and abnormal hormonal profile should be karyotyped and screened for Y chromosome microdeletions; these analyses lead to a diagnosis in more than 15% of cases and contraindicate a testicular biopsy when a full AZFa and/or AZFb microdeletion is present. Percentage of patients with the history of Mumps orchitis is much higher than in other populations because of mumps epidemic parotitis in 2008.
Key words: male infertility, azoospermia, AZF deletions, Klinefelter syndrome, TESE, CFTR mutation.

89. NON-INVASIVE EVALUATION OF AUTONOMIC NERVOUS SYSTEM DYSFUNCTION IN IDIOPATHIC OVERACTIVE BLADDER IN WOMAN

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Introduction. Overactive bladder (OAB) syndrome is characterized by urgency with or without urgency incontinence that is usually associated with increased daytime frequency and nocturia. The exclusion of urological (obstructive, infectious, neoplastic disease or lithiasis) or neurological disorders leads to the diagnosis of idiopathic OAB syndrome, being a common disorder, especially in women. The pathophysiology of iOAB remains unclear, but two main

hypotheses currently being considered include myogenic and neurogenic dysfunction that involves a specific dysfunction of the autonomic nervous system.

Aim of the study. To determine what are the different methods used in evidence for autonomic nervous system (ANS) dysfunction in females with iOAB.

Materials and methods.. This study is a systematic review of data of publications of the last 10 years on the selected theme using PubMed system. According to a key phrase “autonomic nervous system in overactive bladder”, “evaluation of idiopathic overactive bladder” 90 publications were found, 32 publications were selected and analysed. Research includes data from 15 publications.

Results. The OAB symptom score, which goes from 0 to 15, is subjective and has limitations, and urodynamic investigations can be invasive and are time consuming. Here is a need for a reliable, objective, and non-invasive methods of measuring the activity of the nerve fibres that control the urge to urinate and urination. Autonomic dysfunction in the genital area can be assessed using sympathetic skin response (SSR). The absence of SSR may be a sign of autonomic dysfunction and also of iOAB. SSR tests can be used for the detection of early iOAB and assessing those likely to be refractory to anticholinergic drugs in iOAB. Autonomic cardiovascular testing in females are associated with iOAB without detrusor overactivity, and “sensory urgency” could be related to a sympathetic dysfunction. Measuring the heart rate variability (HRV) provides a non-invasive approach to detecting autonomic imbalances. The reductions of HRV values in patients with iOAB suggest that the autonomic nervous system is altered and may be a factor in disturbed bladder function. Was demonstrated that deep respiration heart rate variations increased in patients with iOAB. These results reflect parasympathetic hyperactivity. Functional studies such as pupillometry would be helpful for understanding the iOAB and serve as an aid to the development of therapeutic options.

Conclusions. The researches presented in this review strongly support that dysfunction in the ANS balance could be involved in the pathophysiology of iOAB and further using the diagnostic methods to monitor treatment response and apply them to pharmacological or surgical treatment. And because of their non-invasiveness, these methods can also be used in children.

Key words: autonomic nervous system, idiopathic overactive bladder, women.

90. TRANSURETHRAL THULIUM LASER VAPOENUCLEATION OF PROSTATE – A GOOD ALTERNATIVE FOR OPEN SURGERY

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Introduction. Treatment of huge benign prostatic hyperplasia (BPH) consists an actual problem for urological community. Nowadays, open surgery is one of the basic surgical methods in treatment of large BPH, but it is less used due to the modern laser techniques. Spreading of laser surgery offers some new opportunities for its treatment. Safety of Thulium:YAG laser in transurethral vapoenucleation of the prostate in combination with its efficiency assure a good alternative for classic open surgery in BPH treatment.

Aim of the study. Comparative assessment of the efficacy of transurethral Thulium:YAG laser vapoenucleation of prostate (ThuVEP).

Materials and methods. 37 patients with average age of 67 years underwent surgical treatment of large BPH at the Department of urology and surgical nephrology, State University of Medicine and Pharmacy “Nicolae Testemițanu”. Patients were divided into two treatment groups: ThuVEP (17 patients) and open simple prostatectomy (Fuller-Freyer procedure) (20 patients) and evaluated postoperatively at 3 months. Hemoglobin drop was also evaluated at the first postoperative day.

Preoperative patients were investigated: PSA, IPSS, QoL, TRUS-P with PVR and Qmax. Patients inclusion criteria: Prostate Volume $\geq 80\text{cm}^3$, IPSS ≥ 16 and PVR $\geq 50\text{ml}$, PSA $\leq 4\text{ng/ml}$, QoL > 4 , Qmax $< 8\text{ml/s}$.

Results. Average duration of intervention: 79 min vs 63 min. The prostate volume decreased postoperative on average from $82,2\text{ cm}^3$ to $31,3\text{ cm}^3$ vs $83,4\text{ cm}^3$ to $31,9\text{ cm}^3$, there was an increase of average Q_{max} from 8,2 to 20.3 ml / s vs 8,4 to 21,1 ml / s, and a decrease in mean IPSS from 19,3 to 5,3 vs 20,1 to 5,4, and PVR diminished from 67.2 ml to 15,4 ml versus 68,1 to 17,4 ml, respectively. The period of transitional macrohematuria was 2,1 days vs 5,3 days respectively. The duration of cateterization was 2,3 days in the first group and 8,3 days in the second group. Mean hemoglobin drop was 2,1g/l in Group 1 vs 3,4g/l in Group 2.

Conclusions. ThuVEP is an effective alternative method in the treatment of large BPH. Immediate postoperative results of ThuVEP are similar to the results in open simple prostatectomy (Fuller-Freyer procedure). It is to mention a high safety profile characteristic for ThuVEP and a reduced hemoglobin drop comparatively to classic open surgery.

Key words: Thulium:YAG laser, vapoenucleation, prostate

DEPARTMENT OF SURGICAL ONCOLOGY

91. ETIOPATHOGENICITY AND DIAGNOSIS OF ENDOMETRIAL OVARIAN TUMORS

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Introduction. Endometriosis is a benign gynecological estrogen-dependent disease characterized by endometrium-like tissue outside the uterus. The disease affects approx. 6-10% of women of reproductive age. The benign endometrial tumor also known as "chocolate cyst" affects 17-44% of women with endometriosis. Etiological theories explaining the endometrial lesions are: reflux of endometrial tissue via fallopian tubes during menstruation, coelomic metaplasia, vestiges of embryonic cells and lymphatic and vascular proliferation. The golden standard in diagnosis of endometrial tumors is laparoscopy. Transvaginal ultrasound does not help in initial diagnosis, but nonetheless can help in telling apart the endometrial from other benign ovarian tumors, while MRI helps in differentiating endometrial ovarian tumors from other ovarian cysts.

Aim of the study. Evaluation of risk factors and methods of diagnosis of endometrial ovarian tumors.

Materials and methods.. Lot of patients: 27 patients with endometrial ovarian tumors who were hospitalized and received treatment at PMSI OI of the Republic of Moldova between 2014 and 2019.

Results. Total number of patients enrolled in the study: 27 patients, 25-45 years (age of highest incidence) - 15 patients (55,5%). The most frequent symptoms: pelvic pain - 27 patients (100%), dysmenorrhea - 9 patients (33,3%), dyspareunia- 5 patients (18,51%), metrorrhagia - 3 patients (11,1%).Bimanual examination of 12 patients (44,4%), revealed a smooth, elastic mass. According to laboratory data, 19 patients (70,37%) showed high CA 125 values, and 14 patients (51,8%) high estradiol values. Diagnostic imaging: ultrasound - 27 patients (100%), CT -7 patients (25,92%), MRI - 3 patients (11,1%). Laparoscopic methods: diagnostic laparoscopy - 12 patients (44,4%). All patients have received surgical treatment: surgery under laparoscopy - 12 patients (44,4%), laparotomy - 15 patients (55,5%).

Conclusions. 1.Age and high estrogen levels are among the main factors which lead to endometrial ovarian tumors. 2.Pelvic pain is the main symptom shown by patients followed by dysmenorrhea, dyspareunia, and metrorrhagia. 3.Laparoscopy is the golden standard in the diagnosis of endometrial ovarian tumors.

Key words: endometriosis, endometrial tumor, laparoscopy, pelvic pain

92. CONTEMPORARY TREATMENT OF METASTATIC OVARIAN TUMORS

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Introduction. Metastatic ovarian cancer is a serious worldwide public health problem, with one of the highest potential for lethality among all tumors. It is an advanced malignancy, or secondary tumor, with primary other organs, most commonly the gastrointestinal tract and mammary gland, stomach, colon, appendix, uterus, lung. At present, the treatment of metastatic ovarian tumors consists of several successive stages: surgical treatment, chemotherapy and radiotherapeutic treatment. Patients with a metastatic limit only in the ovary have a favorable prognosis, or usually. Adjuvant chemotherapy after metastasis resection offers survival benefits in gastric and colorectal cancer. The ovary is a frequent site of involvement for metastases. Ovarian involvement is observed at autopsy in approximately 10% of breast cancer cases. Metastasis is bilateral around 80% of patients. About 5-30% of ovarian cancers are metastatic malignancies.

Aim of the study. To study the techniques and principles of treatment for metastatic ovarian tumors

Materials and methods.. Lot of patients: 53 patients with metastatic ovarians tumors were hospitalized and treated in IMSP IO from Moldova during 2012-2019

Results. Total enrolled: 53 patients, age with the highest incidence - 41-50 years - 18 patients (33.9%) Histological distribution: signet ring cell - 26 patients(49.1%), adenocarcinoma – 24 patients (45.2%), clear cell carcinoma - 3 patients (5.66%). After the primary outbreak - the highest incidence for the stomach cancer - 25 patients (47.1%) and uterus cancer- 17 patients (32.07%).For the colorectal cancer the incidence is 9.43%- 5 patients, uterin cervical cancer-3.77%- 2 ,mammary gland cancer-5,66%- 3 patients and for cancer without clarification-1,88 %- 1 patient. Bilaterality is prevalent in our study with 62.2% (33 persons) Of them treated surgically: 53 patients-100% ,treated only with adjuvant chemotherapy: 40 patints- 75,47 %,

treated only with radiotherapy- 7 patients- 13.2 %, combined treatment- 6 patients- 11,3%. Chemotherapy treatment consists of complex treatment regimens containing at least 2 chemotherapeutic preparations. The patients has be treated with fluorouracil, doxorubicin, cisplatin, cyclophosphamide .We can mention that fluorouracil was used by 28 patients, doxorubicin-24, cisplatin -30, cyclophosphamide-14.

Conclusions. Treatment for metastatic cancer aims to slow the growth or spread of the cancer. The treatment depends on the type of cancer, where it started, the size and location of the metastasis, and other factors. Even if metastatic cancer has stopped responding to treatment, many therapies may help ease side effects and improve quality of life.

Key words: metastatic cancer, treatment, oncogenicology

93. CLINICAL EVOLUTION AND TREATMENT OF BREAST CANCER IN YOUNG WOMEN

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Introduction. Breast cancer is the most common cancer diagnosed in women worldwide, with nearly 1.7 million new cases diagnosed annually (25% of the total) and 571,000 deaths. In Europe, breast cancer accounts for the highest share (26.4%) of all cancers in women, with 522,513 new cases, far above colon cancer (11.5%; 228,067 new cases) and lung cancer (8%; 158,196 new cases). The incidence of breast cancer in Moldova in 2018 was 1125, and the morbidity was 360.6 per 100 thousand population.

Aim of the study. This study aims to analyze the clinical evolution and treatment of breast cancer at different stages in young women.

Materials and methods.. The study is based on a retrospective descriptive analysis carried out for about 3 years. The group included 63 patients, all women between the ages of 24 and 45, diagnosed with breast cancer at various stages. Clinical evolution, stage, tumor size, preoperative treatment and surgical method were evaluated.

Results. We found that of 63 patients, 61 had clinical symptoms, while 2 patients were diagnosed during screening. The complaints of the patients included palpation of a hard, immobile, painless tumor of irregular outline – 50 cases (82%); breast swelling – 8 cases (13%); nipple leaks – 2 cases (3%), pain – 1 case (2%). Tumor sizes ranged from 1.0 cm to 5.5 cm. Thirty-eight patients had tumors smaller than 2 cm, 24 patients had tumors with sizes between 2 and 5 cm and 1 patient had tumor of 5.5 cm. There were diagnosed 3 patients (5%) with stage I; 13 patients (21%) with stage IIA; 39 patients (62%) with stage IIB; 4 patients (6%) with stage IIIA; 4 patients (6%) with stage IIIB. Out of 63 patients, 42 patients (67%) received preoperative treatment: chemotherapy – 39 patients (61.9%), radiotherapy – 3 patients (4.7%). Of the patients receiving chemotherapy, 5 patients took 2 courses, 16 patients – 3 courses, 14 patients – 4 courses, 2 patients – 6 courses, 2 patients – 8 courses. Surgical treatment of malignancies was performed by two methods: single mastectomy – 18 malignant tumors (28.5%), Madden radical mastectomy – 45 malignant tumors (71.5%).

Conclusions. We found that of 63 patients, 61 had clinical symptoms, while 2 patients were diagnosed during screening. The complaints of the patients included palpation of a hard, immobile, painless tumor of irregular outline – 50 cases (82%); breast swelling – 8 cases

(13%); nipple leaks – 2 cases (3%), pain – 1 case (2%). Tumor sizes ranged from 1.0 cm to 5.5 cm. Thirty-eight patients had tumors smaller than 2 cm, 24 patients had tumors with sizes between 2 and 5 cm and 1 patient had tumor of 5.5 cm. There were diagnosed 3 patients (5%) with stage I; 13 patients (21%) with stage IIA; 39 patients (62%) with stage IIB; 4 patients (6%) with stage IIIA; 4 patients (6%) with stage IIIB. Out of 63 patients, 42 patients (67%) received preoperative treatment: chemotherapy – 39 patients (61.9%), radiotherapy – 3 patients (4.7%). Of the patients receiving chemotherapy, 5 patients took 2 courses, 16 patients – 3 courses, 14 patients – 4 courses, 2 patients – 6 courses, 2 patients – 8 courses. Surgical treatment of malignancies was performed by two methods: single mastectomy – 18 malignant tumors (28.5%), Madden radical mastectomy – 45 malignant tumors (71.5%).

Key words: breast cancer, evolution, treatment.

94. CONTEMPORARY SURGICAL AND CHEMOTHERAPEUTIC TREATMENT OF BORDERLINE SEROUS OVARIAN TUMORS

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Introduction. Borderline ovarian tumors are a special group of tumors that have histopathological character and lie between benign and malignant ovarian tumors. 15 to 25 % of gynecological tumors are borderline ovarian tumors, whereas serous and mucosal tumors in the histological majority are borderline affecting the reproductive age. Borderline ovarian tumors or semi-malignant tumors are a group of lesions that show some malignant character (moderate cellular atypia, epithelial stratification, reduced mitotic activity), but without stromal invasion.

Aim of the study. The purpose of this paper is to present the statistical results and to analyze the data from the published literature concerning this pathology with respect to the surgical and chemotherapeutic treatment of borderline ovarian tumors.

Materials and methods.. The retrospective study was performed with a group of 40 patients who are suffering from tumors with low-malignancy and a good long-term prognosis. Surgical treatment is the fundamental treatment of borderline ovarian tumors, but there are some debates concerning chemotherapeutical treatment.

Results. După structura istologică, în ovarienă tumorală se limitează la un punct tipic seros prevalent în 64%, urmat de mucinoase cu 31% și tipul endometroid i-au revenit 5%. Diagnosticul intraoperator al tumorilor ovariene de frontieră s-a bazat pe: concreșteri papilomatoase în 31 de timp cu 78%, ruperea capsulei tumorii depistată la 5 paciente ce a constituie 14%, afectarea bilaterală ovariană la 17 paciente (47%), ascendentă în 6 poate cu 16,6%.

Conclusions. According to the histological structure, in the borderline ovarian tumors the serous type prevailed in 64%, followed by mucinous 31% and endometroid type took up 5%. The intraoperative diagnosis of borderline ovarian tumors was based on: findings papillomatous in 31 cases with 78%, tumor capsule rupture detected in 5 patients who constituted 14%, bilateral ovarian involvement in 17 patients (47%), ascites in 6 cases with 16.6%.

Key words: borderline ovarian tumors, malignity, surgical treatment.

95. CLINICAL AND MORPHOLOGICAL FEATURES OF OVARIAN CANCER

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Introduction. Globally, ovarian cancer ranks seventh among malignancies and is the eighth leading cause of cancer mortality in women. In 2018, there were about 22,240 new cases of ovarian cancer and 14,070 deaths caused by this disease. From the histological point of view, ovarian cancer is classified in: serous – 52%, endometrioid – 10%, mucinous – 6% and clear-cell – 6%, while other unspecified subtypes are assigned 25%.

Aim of the study. This study provides the analysis of the clinical and morphological peculiarities of malignant ovarian tumors

Materials and methods.. A retrospective study involving a group of 30 patients diagnosed with ovarian cancer of stages I-IV, admitted to the No.2 Gynecology Department of the Oncological Institute of Moldova.

Results. The objective examination of the patients revealed that out of 30 patients, 17 presented ascites in different degrees, 6 patients – unintentional weight loss, 4 patients – lumbar pain and abdominopelvic pain, 3 patients – the presence of a palpable mass. Respectively, translated into percentages, ascites manifested in 56.6% of cases, unintentional weight loss – 20%, lumbar and abdominopelvic pain – 13.3% and the presence of a palpable mass – 10%. At the histopathological examination, the serous subtype was determined in 20 patients (66.6%), 4 patients had a clear-cell histotype (13.3%), 3 patients were detected with the endometrioid subtype (10%), and 3 – with the mucinous subtype (10%).

Conclusions. Ovarian cancer is most commonly diagnosed in stages II-III, ascites is the most common clinical manifestation, followed by weight loss and the presence of the ovarian mass. The most common histological type was ovarian serous cystadenocarcinoma, followed by mucinous and clear-cell carcinoma.

Key words: ovarian cancer, clinical manifestation, diagnostic

96. DIAGNOSIS AND TREATMENT OF BENIGN VULVAR TUMORS

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Introduction. The vulvar region is a complex area because it has many elements, besides the skin, that are capable of producing a variety of benign tumors. The subepithelial fibrous stroma of the inferior female genital tract constitutes a differentiated mesenchyme, with myofibroblastic properties and a particular phenotype. Factors that favor the appearance of benign vulvar tumors can be classified into two groups with non-influential factors: such as age, race, pathological and heredocolateral history, vulvar atypia and with influential factors including: obesity, diabetes, smoking, compromised immunity, sedentarism, number of births and number of sexual partners. Also significant is the correlation between risk factors and the presence of HPV (human papillomavirus) that causes the appearance of high grade intraepithelial squamous lesions (HSIL, HPV dependent) and vulvar intraepithelial dysplasia.

The conduct in diagnosing the vulvar lesion is to carefully inspect the affected region and the groin nodes, assessing the size of the lesion and the regional adenopathies. The main element of the diagnosis is vulvar biopsy with morphological confirmation. Treatment is performed by partial or radical vulvectomy.

Aim of the study. Appreciation of the methods of diagnosis and treatment of benign vulvar tumors.

Materials and methods.. In the study group were included 16 patients with benign vulvar tumors diagnosed and treated in IMSP IO from the Republic of Moldova during the years 2014-2019.

Results. Total enrolled: 16 patients. Distribution by age groups: 41-50 years - 5 patients (31.25%), 51-60 years - 5 patients (31.25%), 31- 40 years - 3 patients (18.75%), 61-70 years - 3 patients (18.75%). Based on the predisposing factors in the development of benign vulvar tumors, there were 7 cases of obesity (43.75%) and the presence of HPV virus type 6 and 11 in 9 patients (56.25%). According to the location: on the right labia - 6 patients (37.5%), and on the left labia - 10 patients (62.5%). In the examination of patients by ultrasonography we obtained in 10 patients a formation less than 5cm (62.5%), in 3 patients a formation of 6-10cm (18.75%) and in 3 patients a formation greater than 11 cm (18.75%). Based on the histological examination there were 5 cases of vulvar papilloma (31.25%), 8 cases of vulvar fibroma (50%) and 3 cases of vulva leukoplakia (18.75%). All patients underwent surgical treatment: partial vulvectomy -15 patients (93.75%) and radical vulvectomy - one patient (6.25%).

Conclusions. 1. Obesity and the presence of HPV virus types 6 and 11 are some of the primary factors leading to the development of benign vulvar tumors 2. Histopathological examination represents the gold standard in the diagnosis of benign vulvar tumors. 3. Surgical treatment is the method of choice in the treatment of benign vulvar tumors..

Key words: HPV, vulvar tumor, diagnosis, treatment, histological examination.

97. THE FEASIBILITY OF SENTINEL LYMPH NODE (SLN) BIOPSY EXAMINATION AFTER NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER PATIENTS

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Scientific adviser: Orsolya Bauer Georgescu Rares

George Emil Palade University of Medicine, Pharmacy, Science and Technology of Targu Mures

Introduction. The feasibility of sentinel lymph node biopsy examination for breast cancer patients that had no clinically detected lymph nodes and underwent neoadjuvant chemotherapy have been analyzed by injecting blue dye into the area near the tumor.

Aim of the study. Axillary status is one of the most important prognostic factors for breast cancer. Sentinel node biopsy has become a standard procedure for axillary staging in clinically node-negative patients. This technique brings out important information that helps physician in therapeutic management of these patients. Lymphadenectomy is an invasive procedure associated with higher morbidity and complications that has shown to be unnecessary in some cases of breast cancer.

Materials and methods.. Forty patients with stages 0-II breast cancer treated with neoadjuvant chemotherapy were enrolled in the study. The sentinel node biopsy was performed after blue

dye injection into the tumor. Sentinel nodes stained bright blue and were removed. The sentinel nodes have been examined under the microscope for cancer signs. Depending on the biopsy results this was followed or not by lymphadenectomy. Parameters like age, size of tumor, Nottingham grade, presence of hormonal receptors, HER 2 enrichment, presence of microcalcification, necrosis and inflammatory infiltrate have been studied to predict the risk of axillary metastasis.

Results. Forty patients received SLN biopsy after neoadjuvant chemotherapy. Ten cases (25%) of these had positive sentinel lymph nodes confirmed by anatomopathological examination. Lymphadenectomy procedure have been performed and only 3 of them (30%) had metastatic lymph nodes in the rest of the axilla.

Conclusions. SLN biopsy accuracy after neoadjuvant chemotherapy is still debated in literature. Thirty of our patients were saved from an unnecessary axillary lymph node dissection by using SLN biopsy technique.

Key words: breast cancer, neoadjuvant chemotherapy, sentinel nodes

98. TYPE 3C (PANCREATOGENIC) DIABETES MELLITUS

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Introduction. Exocrine pancreatic insufficiency is frequently associated with diabetes, with high prevalence in both insulin-dependent or insulin-independent patients. Historically, diabetes due to diseases of the exocrine pancreas was described as pancreatogenic diabetes mellitus, but recent literature refers to it as type 3c diabetes as it was classified by American Diabetes Association.

Aim of the study. De-novo diabetes mellitus is an important consequence of distal pancreatectomy, ductal adenocarcinoma, chronic pancreatitis and a better understanding of the frequency and risk factors for this outcome may allow alteration of the treatment course. Our goal involves identifying causes and differences between some entities of type 3c diabetes mellitus

Materials and methods.. The following represents a summary of the relevant literature in electronic databases, with the purpose of providing more insight into the important relationships between pancreatic ductal adenocarcinoma (PDAC), distal pancreatectomy and chronic pancreatitis with diabetes. Relevant literature cited in electronic databases Scopus, EMBASE, MEDLINE, Web of Science, The Nature, The Lancet.

Results. Even if in case of distal pancreatectomy etiology may be clear-absence of islets leads to lowering of the insulin, there are however some specifics: Due to an increased peripheral sensitivity to insulin and the reduced glucagon level in pancreatogenic diabetes, exogenous insulin administration frequently causes hypoglycemic attacks, characteristically called 'brittle' diabetes. On the other side low levels of pancreatic polypeptide raises blood glucose level drastically. In chronic pancreatitis (CP) inflammatory environment and increased concentration of pro-inflammatory cytokines such interleukin 1 β , 1R, tumor necrosis factor (TNF) α and agents like adrenomedullin or vanin-1 within the pancreatic parenchyma mediate β -cell dysfunction before frank β -cell loss. As chronic pancreatitis progresses, the extensive

fibrosis of the exocrine pancreas slowly destroys the pancreatic islet tissue. Moreover, deficiency of the Pancreatic polypeptide, which regulates the expression and availability of hepatic insulin receptors, leads to persistent hepatic glucose production that makes hyperglycemia more severe, fact that proves the observation that insulin resistance in CP appears to be independent of other components of the metabolic syndrome. On the other hand, in pancreatic ductal adenocarcinoma (DA), due to glandular destruction hypoinsulinemia would be expected, however, diabetes secondary to pancreatic cancer is associated with hyperinsulinaemia secondary to insulin resistance. This may be due to raised circulating level of islet amyloid polypeptide (IAPP), also known as amylin, which reduces insulin sensitivity in vivo and glycogen synthesis in vitro, that are found to be higher in patients with DA, although pancreatic tumors expressed neither IAPP nor insulin. It has been suggested that supernatant from cell lines of pancreatic ductal adenocarcinoma has been playing a key role in insulin modulation.

Conclusions. Despite the potential resemblance to type 1 and type 2 diabetes, pancreatogenic diabetes has a unique structure of hormonal and metabolic characteristics; it is rated as unique clinical and metabolic unit. Clinical features are closely related to pathogenetic ones. Due to abnormal incretin response and cranky effect of PP and amylin the question of peripheral sensitivity to insulin, since it is closely related to the problem of antihyperglycemic therapy, is still open. The development and improvement of new technologies such as islet auto-transplantation in liver, PP replacement, and artificial endocrine pancreas will help to provide better glycemic control in patients with type 3c diabetes.

Key words: Diabetes mellitus, Ductal adenocarcinoma, Distal pancreatectomy, Chronic Pancreatitis, Exocrine pancreatic insufficiency

99. DIAGNOSTIC AND PALLIATIVE TREATMENT OF HEAD OF PANCREAS CANCER

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Introduction. Despite all improvements in both surgical and other conservative therapies, pancreatic cancer is steadily associated with a poor overall prognosis and remains the fourth leading cause of cancer-related mortality in the world. About 80% of patients who have received a diagnosis of pancreatic cancer already have other organ metastasis, as well as local tumor in the late stage. Therefore, appropriate palliation for the main symptoms, such as obstructive jaundice, duodenal obstruction, and pain, is most important. The role of palliative surgery in locally advanced pancreatic cancer mainly involves patients who are found unresectable during open surgical exploration and consists of combined biliary and duodenal bypass procedures.

Aim of the study. Analysis of clinical and paraclinical methods of diagnosis and palliative surgical treatment of patients with cephalopancreatic cancer.

Materials and methods. The current study presented 548 cases with malignant obstructive jaundice from the Gastrology Clinic of IMSP IO Chişinău, between 2007-2019. Excluded from this research were any patients who underwent resection, had no obstructive jaundice at the

time of diagnosis, or had other periampullary cancer (distal bile duct, ampulla of Vater, and duodenum).

Results. We identified 424 cases with histologically proven with cephalopancreatic cancer (263 males-58,31 % and 188 females-41,68%) who underwent palliative treatment with cancer of the head of the pancreas aged between 32 and 84, requiring palliation. Following the retrospective study, we found: the diagnosis of cephalopancreatic tumor was clinically and paraclinically established using the diagnostic methods: USG (100%), CT (86,79%); Retrograde endoscopic cholangiopancreatography (23,11%). The tumors of these patients were unresectable because of local vascular invasion to the superior mesenteric vein, portal vein, superior mesenteric artery, hepatic artery, or celiac artery. The tumor size was 5.4±2.2 cm. The tumors of these patients were all in stage 2b-4 according to the NCCN guideline of pancreatic cancer. No cases were diagnosed using preoperative biopsy. Of the 424 cases with a reported histological subtype pancreatic ductal adenocarcinoma 417(98,34%) ,Moderately differentiated-207,Well-differentiated-107,Badly differentiated-87 Solid neoplasm-4(0,98%) Acinar carcinoma 3(0,7%). All the patients underwent palliative surgery , of whom 109 (25,7%) biliar by-pass, 152 (35,84%) biliar + gastric by-pass , 65 (15,3%) stent and 23 (5,42%) external bile drainage. The postoperative mortality did not exceed 5%, the rate of postoperative complications was below 23%, an acceptable value and equivalent to the world data.

Conclusions. 1. The goal of therapy for these patients is to obtain the most complete and prolonged remission of symptoms possible, with the least intervention-related morbidity and mortality. CT . 2. The gold standard in the diagnosis of cephalopancreatic tumor is abdominal

Key words: pancreas cancer, palliative care, diagnostic

100. CONSERVATIVE SURGICAL TREATMENT OF EARLY CERVICAL CANCER IN NULLIPAROUS PATIENTS. META-ANALYSIS.

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Introduction. Relevance in the Republic of Moldova, in the last five years over 1500 women was diagnosed with cervical cancer, and over 1000 lost their lives. Cervical cancer is placed third among cancers of women and first among women aged 25-44. Worldwide cervical cancer mortality rates they are substantially smaller than the incidence, with an incidence mortality rate of 50,3%.

Aim of the study. This study proposes to analyze the published literature characterizing the oncological results of the nulliparous patients with early cervical cancer, who want to maintain fertility and menstrual function to conceive a pregnancy.

Materials and methods.. The research of the articles is designed in such a way that the obtained results to contain safe dates effectuated on smaller lots, being combined, they present the sum of studies on this subject, and the definitive conclusions are obtained.

Results. 20 scientific works including the study of patients with early cervical cancer. The results obtained to add 4568 patients which have been exposed to the conization intervention and include 3 scientific works and 17 are involved in the treatment of radical trachelectomy. 946 patients are included in the conization group; 845 (89.3%) stage IA1, 2 (11,7%) stage IA2. In the radical trachelectomy group there are 3539 patients, 924 (26.1%) stage IA1, 1046

(29.5%) stage IA2, 1522 (43%) stage IB1, 48 (13%) stage IB2. Of 16 studies that have been reported fertile results are 47.9% (397/829), birth rate with 59.5% (514/864), premature birth rate 61.9% (302/488) and abortion rate in the second trimester was 71.8% (26/362).

Conclusions. This article focuses on current options for conservative surgery in early cervical cancer associated with long-term oncologic efficacy, keeping reproductive function. Treatment that determines fertility conservation, radical trachelectomy is favourable, and carefully selected women can maintain fertility and get a pregnancy.

Key words: conization, radical trachelectomy, cervical cancer, early stage, conservative

101. BREAST CANCER IN MEDICAL WORKERS DEPENDENT ON MENOPAUSAL STATUS

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Introduction. Breast cancer in medical workers is higher than the general population, and is growing steadily and continue.

Aim of the study. Studying breast cancer in medical workers dependent on menopausal status

Materials and methods.. The study was carried out on 196 female medical staff with a mammary gland camera, over the years 2010-2018. The study was conducted based on the questionnaires of the breast cancer doctors, and on the observation and outpatient records.

Results. Of the 196 women medical personnel included in the study for the given period, with the oncological pathology of the mammary gland confirmed histologically, only 5 persons (2.5%) were in the fertile period, 28 (14.4%) were in the premenopausal period, 25 (12.7%) were in the menopause period and 138 (70.4%) in the postmenopausal period. In stage I TNM, 7 (12.7%) were detected in the pre-menopausal period, 4 (7.3%) in the menopause period and 39 (70.9%) in the postmenopausal period. In stage II TNM (n = 103), in the postmenopausal BC period in medical workers was confirmed in 14 (13.6%) patients, in the menopause period 9 (8.7%) and in the postmenopausal period in 80 (77.7%) patients. In stage III TNM (n = 23), the diagnosis of BC in medical workers was appreciated in the postmenopausal period in 6 (25%) patients, in the menopause period in 8 (33.3%) and in the postmenopausal period in 10 (41.7%). In stage IV TNM, predominantly, in 7 (53.8%) BC in medical workers was determined postmenopausal.

Conclusions. Breast cancer in medical workers has increased over the years, and has a higher incidence of breast cancer in medical workers is in the pre- and postmenopausal period, compared with the fertile period and the menopause, but in the general population, stages I and II are more frequent.

Key words: doctors, medical workers, breast cancer, menstrual periods, menopause.

102.MALIGNANT TUMORS ASSOCIATED WITH PREGNANCY

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Introduction. Cancer during pregnancy is uncommon. But when it does occur, it can be a complication for the mother and the health care team. Pregnancy itself does not appear to affect

how well the cancer treatment works. But if a woman's diagnosis or treatment is delayed due to pregnancy, the cancer may have a larger effect, and this may lead to more risks associated with the cancer. The diagnostic and therapeutic management of the pregnant patient with carcinoma is very doubtful since it involves two persons, the mother and the fetus. Obstetricians and oncologists should offer maternal treatment and fetal well-being at the same time.

Aim of the study. Studying malignant tumors associated with pregnancy.

Materials and methods.. The study constituted the retrospective analysis of the primary documentation (clinical observation card, ambulatory card) of 14 patients with malignancies associated with cancer within the IMSPIO and the Mother and Child Center during the years 2015-2018 in the Republic of Moldova.

Results. In 2015 we found 3 patients with cancer associated with pregnancy, of which, 2 patients were diagnosed with pregnancy associated with breast cancer (14.3%), 1 pregnant patient with cervical cancer (7.1%), and patients with ovarian cancer and pregnancy were not detected. In 2016, 4 patients (28.6%) were detected, of which, 2 patients with breast cancer associated with pregnancy (14.3%), 1 pregnant patient associated with cervical cancer (7.15%), 1 pregnant patient associated with ovarian cancer (7.15%). In 2017, 3 patients (21.4%) were detected, of which, 1 pregnant patient with breast cancer (7.1%), 1 pregnant patient associated with cervical cancer (7.1%) and 1 pregnant patient associated with ovarian cancer (7.1%). And in 2018, 4 patients (28.6%) were detected in total, of which, 2 pregnant patients with breast cancer (14.3%) and 2 pregnant patients with cervical cancer (14.3%).

Conclusions. Summarizing the years 2015-2018 were detected 14 cases of patients with malignancies associated with pregnancy, of them the most commonly associated are; breast cancer, cervical and ovarian cancer, so 7 patients in total were obtained with breast cancer and pregnancy. 5 patients with cervical cancer and pregnancy. 2 patients with ovarian cancer and pregnancy. Thus we can conclude the importance of studying cancer associated with pregnancy, studying the first signs of impairment, diagnosis and correct treatment during pregnancy and preventing these diseases during woman course with pregnancy, assuming the safety of her and her fetus.

Key words: breast cancer, ovarian cancer, cervical cancer, malignancy, pregnancy,

RECONSTRUCTIVE MICROSURGERY

103. FREE MINI- FLAPS IN FINGERS' SOFT-TISSUES DEFECTS RECONSTRUCTION

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Introduction. Reconstruction of fingers with skin and soft tissue defects remains challenging. Optimal reconstructive treatment should be simple, reliable, cost effective, and provide pliable, sensitive, and cosmetically similar tissue that will allow adequate function. A free flap of appropriate size may provide ideal surgical solution, since is associated with shorter time of returning to work and satisfactory function and aesthetic appearance.

Aim of the study. To compare outcomes of fingers' reconstruction using free arterialized venous flap (AVF), superficial palmar branch of radial artery flap (SUPBRA), dorsal radial perforator flap (DRAP), and dorsal ulnar perforator flap (DUAP) harvested from ipsilateral extremity.

Materials and methods. During 6 months were performed 4 types of free flaps from the ipsilateral extremity in reconstruction of fingers' defects, with small/moderate skin defects, including: 1 AVF, 3 SUPBRAs, 1 DRAP, and 1 DUAP. Standardized assessment of outcomes was performed, including duration of operation, objective sensory recovery, cold intolerance, time of returning to work, active total range of motion (ROM) of injured fingers, and cosmetic appearance of donor/recipient sites.

Results. All flaps survived completely, follow-up duration was 12 months. Mean duration of complete surgical procedure for AVFs was distinctly shorter than for others. SUPBRA was used to reconstruct skin and extensor tendon defects using vascularized palmaris longus graft in 1 case. Optimal sensory recovery was better in AVFs and SUPBRAs as compared in DUAPs and DRAPs. No significant differences were noted in ROM or cold intolerance between 4 types. Optimal cosmetic satisfaction was noted for recipient sites of AVFs and donor sites of SUPBRAs.

Conclusions. All 4 types of free flaps are a practical choice in finger reconstruction for small/moderate-sized skin defects. SUPBRAs play an important role due to wider indications, better sensory recovery and cosmetic appearance associated with this method.

Key words: fingers, reconstruction, free flaps.

104. EFFECTS OF VENOUS SUPERDRAINAGE AND ARTERIAL SUPERCHARGING ON ARTERIALIZED VENOUS FLAP IN A RAT MODEL

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Introduction. Despite that various experimental patterns of venous flaps have been proposed, no single pattern have gained widespread acceptance.

Aim of the study. To evaluate the effects and survival rate of venous superdrainage and arterial supercharging on arterialized venous flaps (AVFs) in rat models.

Materials and methods. Experimental study. In a group of 24 white rats was used the arterialized venous epigastric flap according to the model of E. Vaubel and J. Hußmann. Vascular ends were isolated over 1.5 cm proximally. For arterialization of the venous bed of the epigastric flap, an end-to-end anastomosis was performed between the proximal end of femoral artery and the distal end of femoral vein. Venous outflow was performed along the branches of the venous anastomoses of the superficial epigastric vein and the lateral thoracic vein. The lot was divided in 4 groups (n=6): I - venous flap non-arterialized, II - arterialized venous flap (AVf) with arterial supercharging, III - AVf with adequate arterial perfusion, IV - AVf with venous super drainage. Clinical state was assessed by flaps color, capillary response, edema.

Results. 7 days postoperatively, venous flaps without arterial perfusion and venous flaps with arterial supercharging have necrotized in 100%, flaps with a ratio of leading and discharging

vessels 1:1 were grafted in 16,6% with partial necrosis. Non-free venous arterialized flaps with venous superdrainage (1:2 ratio) survived in 100% of cases, with partial necrosis in 50%.

Conclusions. The most optimal connection option for survival of the arterialized flap is the pattern described for group IV– with venous super drainage (ratio of 1: 2 or more), with acceptable survival and failure rate.

Key words: arterialized venous flap, venous superdrainage, arterial supercharging, white rats.

105. NEW PERSPECTIVE IN MANAGEMENT OF ACUTE LIMB ISCHEMIA

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Introduction. Acute limb ischemia is defined as a sudden decrease in arterial perfusion of the limb, with a potential threat to the survival of the limb, requiring urgent evaluation and management. Acute limb ischemia is considered when the symptom duration is less than two weeks. The most common causes of ALI are embolism, thrombosis of native arteries or reconstructions, peripheral arterial aneurysm, dissection, and traumatic arterial injury. In Europe, acute limb ischemia caused by native artery thrombosis or embolization into an atherosclerotic vascular bed has increased in incidence, which has important implications for treatment. In Republic of Moldova, the arterial thromboembolism rest the most common cause of acute limb ischemia. Validation of charts revealed three distinct categories of ALI: lower limb arterial thrombo-embolism; acute exacerbation of chronic limb ischemia; and iatrogenic ALI after revascularization procedures. The clinical presentation of ALI depends on the location and duration of the arterial occlusion, the presence of collateral circulation, and the metabolic changes related to tissue ischemia. Digital subtraction angiography, computed tomography angiography, duplex ultrasound an contrast enhanced magnetic resonance angiography can all be considered for imaging in patients with ALI . Computed tomography angiography is used most often because of its availability, and should be performed for treatment planning, unless the ischemia is too severe to allow time for additional imaging. Initial medical treatment of ALI includes appropriate analgesia and intravenous administration of unfractionated heparin, followed by infusion, dose adjusted to patient response. Patients with ALI should be treated by specialists in vascular and endovascular therapies. The treatment of acute limb ischemia are possible with open revascularization techniques (thrombo-emolectomy and bypass), Endovascular methods (thrombus aspiration, Endovascular mechanical thrombectomy), hybrid treatment and catheter-directed thrombolysis.

Aim of the study. The aim of study is to present the management of patients with acute limb ischemia at different level of healthcare services and the modern medical approach of treatments.

Materials and methods.. This study is an literature review. For this execution was researched the last European and American guidelines and published studies between 2000 and 2019.

Conclusions. Only adequate revascularization, correctly chosen and applied as early as possible is the key to the treatment of acute limb ischemia. It is important that specialists of all fields, as well as patients from risk groups be properly informed.

Key words: acute ischemia, embolism, arterial thrombosis

LABORATORY OF TISSUE ENGINEERING AND CELL CULTURES

106. TISSUE ENGINEERED VASCULAR GRAFTS: DECELLULARIZATION OF PORCINE AORTA THROUGH THREE DIFFERENT METHODS

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Introduction. Cardiovascular diseases are the number one cause of death globally. Vascular surgery, and namely coronary artery bypass grafting (CABG) and peripheral artery bypass grafting (PABG), are the preferred treatment for long-term revascularization. Considering the limitations and unsatisfactory clinical results of synthetic grafts, and limited availability of autologous vessels, tissue engineering has become a promising approach in development of new vascular prostheses. The use of decellularized matrices is one of the various perspectives explored in this field.

Aim of the study. To evaluate the efficacy of three methods in vascular tissue decellularization and to identify the technique that can provide preservation of both mechanical properties and immuno-privileged characteristics of autologous vessels.

Materials and methods. Fresh porcine aorta was obtained from the local slaughterhouse. After dissection of the surrounding connective tissues the samples were subjected to chemical treatments, comprising: A – 1% Triton-X 100, 1% SDS and 0,02% EDTA; B – 1% SDS, 5% DMSO and 0,02 %EDTA; C – 0,1Mm HCl. All the experiments were performed under the steady temperature (37 C) and agitation (200 rpm) for 48 hours. The decellularization effectiveness was evaluated by means of histology and DNA content testing.

Results. The histology study showed incomplete cell removal in the B group, in addition, alteration of the extracellular matrix was identified in all cases. DNA quantification demonstrated the high level of the cell remnants in SDS group.

Conclusions. Our results demonstrated feasibility of chemical treatment in development of acellular scaffolds. However, when used alone SDS was not confirmed to be suitable for complete cell removal. In addition, before a large clinical application of these grafts a more complex evaluation (mechanical testing, cytocompatibility, in vivo testing) is necessary.

Key words: Regenerative medicine, tissue engineering, vascular grafts, decellularization, biological scaffolds

TRAUMATOLOGY AND ORTHOPEDICS SECTION

107. TREATMENT PECULARITIES IN TROCHANTERIC FRACTURES

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Introduction. Trochanteric fracture in adults overwhelming affects elderly subjects. Frequency is increasing with population aging despite the development of treatments for osteoporosis. In elderly subjects, fracture entails a serious risk of loss of independence best reduced with surgery (usually conservative) that should be undertaken with minimal delay. Treatment is surgical, of various sorts. Open reduction internal fixation (ORIF) with intra- or extra-medullary implants is the most frequent attitude in these fractures, which usually heal easily. In elderly patients, arthroplasty is an alternative of choice for some authors. These different treatment modalities are presented, focusing on technical details.

Aim of the study. To evaluate the treatment methods of the pertrochanteric hip fractures

Materials and methods. We studied a patient-based cohort, overall 209 patients from Orthopedic Department of Emergency Medicine Institute during period 07.02.2018 – 07.02.2020.

Results. The majority of pertrochanteric hip fractures was found in women – 65% (137), men – 35% (72). In 95% the main cause of the fracture was usual (habitual) trauma, 5% - car accidents. The group was divided by age: 75-96y – 103p (49%), 45-60y – 78p (37%), 45-60y – 24p (11%), <45y – 4p (1.9%). Fractures were divided by Evans Classification: Evans I – 9p (4.3%), Evans II – 22p (10,5%), Evans III – 28p (13,3%), Evans IV – 28p (13,3%), Evans V – 118p (56.4%), Evans R – 4p (1.9%). 37% (79p) had benefit from the orthopedic treatment, 63% (130p) have undergone the surgical method. In 76% (99p) was used PFN, in 17% (22p) – DHS, in 4.5% (6p) – cemented hip hemiarthroplasty was performed, in 2.3% (3p) – DCS, in 1.5% (2p) – uncemented hip hemiarthroplasty, in 0.7% (1p) – total hip joint replacement was performed. The average length of hospitalization was 9 days.

Conclusions. Even though there is a large pool of surgical methods of treatment, a big number of patients had the benefit from orthopedics type of treatment. The main cause is the existence of high anaesthetical and surgical risks. Surgical type of treatment in case of perthrohanteric hip fractures allows to prevent different types of complications. Kaufer variables are used to choose the fixator for the osteosynthesis. The key for better results is to choose an individual postoperative regimen for every patient.

Key words: Trochanteric fractures, Internal fixation ,Arthroplasty ,Surgical technique

108. PERIAREOLAR BREAST REDUCTION

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Introduction. The purpose of this study is to examine the preoperative, operative and postoperative management of the periareolar breast reduction intervention. These include marking, anticipating anatomical changes by reducing weight and volume, adjusting the nipple-areolar complex as a whole, and monitoring post-traumatic regeneration.

Aim of the study. Indications and contraindications for this intervention; Shall list the advantages and disadvantages; Establishing the effectiveness of pre and post operative monitoring methods.

Materials and methods. In order to provide reliable study data, patients who have been operated at the "TerraMed" Clinic and diagnosed with hypertrophic mammary gland were supposed to use the "Periareolar Breast Reduction". Were taken into account information about

surgeons experience, bilateral breast reduction work-load, pre-operative assessment, selection criteria, issues of operative technique and postoperative management.

Results. During 5 years, between 2015 and 2020 (including), 34 patients aged 30-60 years were operated at the "TerraMed" Clinic and the mammary reduction was performed. For 23 patients the peri-areolar reduction was performed and for 11 patients - other types of reductions. 19 patients needed for the use of mammary implants. During the mammary reduction, complications occurred at 3 patients - marginal necrosis of epidermis (0.3-0.5 cm).

Conclusions. The achieved results have an impressive rate of success. Transareolar breast reduction is an interesting procedure in reconstructive breast surgery. This method focuses exclusively on describing techniques of approach which gives us fulfilment and long-lasting results in breast reconstruction. Patients are delighted with cardinal changes and reintegrate them selfs into society. This intervention is successful one by taking into account the satisfaction and minimisation of initial symptoms of the patients in the post-operative period.

Key words: mammary reduction, mastopexy, breast, nipple-areolar complex ,plastic surgery.

109. POSTTRAUMATIC DISTAL RADIOULNAR JOINT INSTABILITY WITH PALMER 2C TRIANGULAR FIBROCARILAGINOUS COMPLEX INJURY

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Background. The distal radioulnar joint (DRUJ) is unique as it is not a joint but a continuation of the forearm joint. The incidence of DRUJ instability after a distal radius fracture is reported to be between 10%–40%. The triangular fibrocartilage complex (TFCC) presents a 49% prevalence in patients age 70 or older and a prevalence of 27% in patients age 30 or younger (by Casadei, Kyle, and John Kiel. 2020). DRUJ instability is an increasingly recognized clinical problem.

Case report. A 38-year-old woman, fall down on the hand 6 weeks ago. First medical aid was given at the traumatological point in the locality by clinical exam and x-ray investigation. Was determine a contusion of radiocarpal joint with applying a cast for 3 weeks. After past the period of recommendation, the patient has started rehabilitation of hand function. After 10 days of kinetic therapy, the patient accuses pain in the hand, on the dorsal side. On examination, the area of maximal tenderness was in the fovea. She had pain during the distal radioulnar joint (DRUJ) shuck test, piano key test, with evidence of painful DRUJ laxity. She had pain in pronation and supination. There was no specific pain on extension and supination. Radiographs at the time showed displacement of the ulnar head form radial fovea posteriorly. On sonography, examination were visualized partial injury of fibrocartilaginous disc and totally lesion of anterior radioulnar ligaments of DRUJ. Surgical repair of distal radial instability was proposed for the patient. The patient was informed about the risks and benefits of the surgery explicitly, she accepted the surgical treatment tactic by signing the informed agreement. Surgery was made with locoregional anesthesia, by marked zone in the projection ulnar flexor of the carpus and pisiform bone, was made an incision of 4 cm up to the distal flexor plica of the wrist on anatomical layers, delimited square pronator muscle with capsule-tomia of the distal radius ulnar joint in "L", was observed a damaged triangular fibrocartilaginous complex

with irreparable degenerative appearance (Palmer 2C), the superficial flexor tendon graft of 4th finger was collected, and the distal radioulnar ligaments were grafted with the anteroposterior passage of the tendon graft through the tunnel at the distal metaphysis of the radial bone, after was crossed by ulnar bone neck and suture with the forearm in the supination, the stabilization of the DRUJ was determined, then the distal radioulnar joint was fixed with 2 pins. The postoperative period has a simple evolution. The patient had a forearm-hand immobilization for 5 weeks.

Conclusions. Diagnostics of the DRUJ Instability is problematic early. In this case, was determined TFCC injury type 2C by Palmer on sonographic examination was confirmed in surgery time, so it is necessary to make a study to improve the imaging quality diagnosis of TFCC injury for establishing the correct diagnostics and establishing the surgical tactic as early as possible.

Key words: distal radioulnar joint, instability, stabilization

110. SURGICAL AND ECONOMIC MANAGEMENT OF DISTAL HUMERUS FRACTURES

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Introduction. Distal humerus fractures have a complex pattern involving both the columns and the articular surface (AO type B and C injuries) and represent 30% of all elbow fractures, with a reported incidence of 5.7 per 100,000 per year in adults. Federer et al. (2019) estimate a total cost of 20.669 dollars on 12 patients with complete articular fracture of the distal humerus.

Aim of the study. To evaluate the intermediate-term results (follow up of two years) of distal humerus fractures according to data from medical records, implementation of AO classification (Arbeitsgemeinschaft für Osteosynthesefragen) and its surgery, type of implant used in fracture fixation, economic management, specific parameters of elbow post-surgical treatment.

Materials and methods. We have proposed a study of surgical and economic management patients with distal humerus fractures (DHF) which consecutively was treated in the Department of Hand Surgery with the application of microsurgical techniques of Traumatology and Orthopedics Clinical Hospital, Chisinau in the period 2018-2019.

Results. According to AO codification of DHF were determinate type A – 11(A1-1; A2-9; A3-1) , type B – 10(B1 - 2; B2 - 2; B3 -6) , type C – 35(C1-26; C2-4; C3-5) and in total were investigate 56 patients. The report between sex was 2,5:1 (40:16) with a predominance of the female gender. In three cases was achieved a close reduction of FHD type A and fixation was obtained with k-wires. In rest patients were apply open reduction and internal fixation according to AO types of FDH in type A – 9 case was used k-wire a tension bands – and 2 case orthogonal plating; type B – lag screw in 6 cases, k-wires fixation in 3 cases, plating 1 case; in type C was the main goal to obtain the triangular stability with restoration of three columns and were used k-wire, screws and tension bands in 29 cases, orthogonal plating or parallel plating in 8 cases. In distal humerus fractures, surgery was used 11 plates, 101 screws, 258 k-wires, 30,1 m of metallic wire and the total cost of these implants is 11385,8 MDL per total care cost of 28582,65 MDL.

Conclusions. Economic management of open reduction and internal fixation of distal humerus fractures have potential volume and need improvement to fit the standard of absolute stability in osteosynthesis with plates of distal humerus fractures.

Key words: distal humerus fractures, management, fracture fixation, costs.

111. SURGICAL TREATMENT OF UNSTABLE PELVIC FRACTURES

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Introduction. The number of cases of severe pelvic fractures in the last years is constantly increasing; Main trauma cause is high kinetic energy that results in unstable pelvic ring injuries. According to the data of different authors, disability constitutes from 22% to 66.7% of traumatisations with unstable fractures of the pelvic ring representing a psycho-socio-economic problem.

Aim of the study. Improving the effectiveness of surgical treatment methods in unstable pelvic ring lesions.

Materials and methods. The study is in the research period. The group provided for the study will include 50 patients. The current presentation includes 21 patients.

Results. The formed surgical team was able to perform internal pelvic osteosynthesis. The treatment algorithm of patients with pelvic lesions was implemented and developed in the clinic. The patients post-traumatic quality of life has improved compared to earlier treatment methods.

Conclusions. Internal osteosynthesis is a recently introduced method used successfully in unstable pelvic traumas, that allows firm stabilization and early mobilization of the patient. The surgical treatment should be performed depending on the type of fracture, not on the surgeon's skills.

Key words: Pelvic trauma, unstable fractures, pelvic ring fractures, internal osteosynthesis

112. ARTHROSCOPIC TREATMENT IN LESIONS OF ANTERIOR CRUCIATE LIGAMENT OF THE KNEE

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Introduction. From the total knee injuries, those of anterior cruciate ligament are the most frequent, the incidence of ACL injuries has increased from 86687 in 1998 to 129836 in 2012. The anatomical-functional and biomechanical particularities, predispose the knee joint to frequent trauma, especially in young people with increased functional activity. ACL plays an important role in the biomechanics of the knee, it's taking over 85% of the force that translates anteriorly the tibia, preventing its sliding anterior in relation to the femur, otherwise limiting the hyperextension. Arthroscopic reconstruction of the ACL remains the most used technique

in the world, offering the possibility of reconstructing the ACL according to the anatomy of knee, in the hope of obtaining an articular function as possible close to the physiological one.

Aim of the study. To evaluate the efficacy and advantages of arthroscopic surgery in the reconstruction of the anterior cruciate ligament of the knee.

Materials and methods. The study included a group of 68 patients after an arthroscopic treatment in the Traumatology I section of the SCTO IMSP in Chisinau. There were evaluated clinical data (patients complains on hospitalization): pain in the knee joint, joint instability, joint blockage. Laboratory analysis, electrocardiogram, MRI of the knee joint were performed in all patients. Antero-medial instability of the knee was determined using the Lachman test and the anterior drawer. Surgical treatment include anterior cruciate ligament transplantation and resection of the injured portion of the meniscus.

Results. The average age of the patients was 31 years. From 68 patients 79.40% suffered sport trauma, 20.59% suffered habitual trauma, and in the other 2.96% the LIA injury occurred as a result of road accidents. The meniscus lesion was detected in 45.6%, of which, in 23.5% the lesion of anterior cruciate ligament resulted in lesion of the medial meniscus, in 17.7% occurred the lesion of lateral meniscus, and 4.4% of the patients were injured both medial and lateral meniscus. Methods used in restoration of ACL were predominantly hamstring autografts, fixed with femoral endobutone and tibial interference screw.

Conclusions. The implementation of the endoscopic technique has produced enormous progress in knee joint surgery, being the most accessible and the most accurate method of diagnosis and treatment in ACL injuries. Selection of the surgical treatment method in combination with a complex of post-operative exercises, contributes to the restoration of the joint function at the patients with ligamentous knee injuries.

Key words: arthroscopy, ACL, injury, hamstring.

113. THE CORRELATION BETWEEN PRE OPERATOR LEVEL OF GLUCOSE AND DURATION OF HOSPITALIZATION OF DIABETIC PATIENTS WITH FRACTURES

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Introduction. The incidence of traumatic fractures in diabetic patients is in a continuous rising and the successful management of fractures is a very difficult process. Risk assessment is an appropriate first step. A significant attention must be paid on the severity of the patient's systemic disease process and the level of glucose. For patients with complicated diabetes and a high level of glucose - the risk of any complication is 3.8 times bigger compared with the group with uncomplicated diabetes, especially if we look for an increased risk of infection, malunion, delayed union, nonunion, Charcot arthropathy, and impaired wound healing.

Aim of the study. To establish the correlation between pre operator level of glucose and duration of hospitalization of diabetic patients with fractures as well as the rate of complications.

Materials and methods. In this study were included 64 patients with fracture and type 2 Diabetes, 42 (65.6%) women and 22(34.4%) men hospitalized in the 1stand 2ndDepartment of the Clinical Hospital of Orthopedics and Traumatology from January 2019 to October 2019.

All patients were treated surgically, due to the fracture of a limb, average age was 51 years, with age limits 43-78 years. The patients were classified according to the age of diabetes, glycemic control at the moment of hospitalization, superior or inferior limb.

Results. All 64 patients had a surgical intervention, including intramedullary nailing, ORIF, ring fixator (Ilizarov) or external fixator. 58 (90.6%) patients were hospitalized due to inferior limb fracture, from anamnesis mostly because of falls. 46 patients - with uncomplicated diabetes, and without end-stage organ disease and glucose level less than 10 mmol/l demonstrated improved outcomes, faster tissue healing (they were discharged from hospital approx after 9 days) and a lower rate of complications (only 6 of them). The other 18 patients with preoperator glucose above 10 mmol/l, 14 of them had malunion/delayed union/nonunion or impaired wound healing. The average period of hospitalization was 17 days. Patients with diabetes over 13 years - had a higher glucose level and higher complication rate.

Conclusions. In diabetes, the regeneration of soft tissues is a big challenge, and what at first glance appears to be a routine fracture it may be turned into a difficult case requiring additional strategies to avoid limb loss. Regardless of which treatment method one chooses for a fracture in a patient with diabetes, an important component to preventing complications is tight glycemic control and minimal incisions because maintaining a proper physiologic glucose levels helps encourage wound healing, reducing also and the days of hospitalization.

Key words: fracture; diabetes; glucose; complications.

114. SURGICAL TREATMENT OF UPPER LIMB TUNNEL SYNDROMES

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Introduction. People usually are affected by entrapment neuropathies, sometimes past without some health problem, other evolve to chronic stage, especially common among individuals with predisposing occupations or caused by main medical conditions.

Aim of the study. Analyzing the intermediate term results (follow up of two years) of entrapment neuropathies of upper limb according to data from medical records, classification and surgery tactics.

Materials and methods. We have proposed a study of patients with carpal tunnel syndrome, neuropathy of ulnar nerve at the elbow and wrist level, which consecutively was treated in department of Hand Surgery with the application of microsurgical techniques, of Traumatology and Orthopedics Clinical Hospital, Chisinau in the period 2018-2019. Final outcomes was determined by using Disabilities of Arm and Shoulder and Hand (DASH) score and the wrist MAYO score. All results were presented as mean \pm standard deviation (\pm SD).

Results. Were determined 289 clinical cases of entrapment neuropathies of upper limb. Most of them were female with a prevalence of 3:1 (W:M=217:72). The average age is 58,1 years (max 88, min 17 SD \pm 11,68). From rural area population were the main part of patients - 158 patients (54,67%). Average hospitalization was 6 days(max 12, min 1), 33 cases were practiced with 1 day surgery, also in mild cases 2(56 cases), 3(118 cases), 4(56) days after surgery patients, rest patient with severe stages 5 or more days (26 cases) with additional kinesiotherapy. According by stage entrapment neuropathies of carpal tunnel syndrome were

85 cases - stage II, 149 - stage III and 18 cases - stage IV. With entrapment, neuropathies of ulnar nerve at the elbow were 28 cases and 3 cases at the wrist level. Common entrapment neuropathies of median and ulnar nerve of the wrist zone were determined in 6 cases. Main type of treatment in carpal tunnel syndrome were decompression of carpal tunnel with resection a part of anterior transverse ligament of the wrist - 237(82%), and when at the sonographic examination compression zone were more the 40% of pattern nerve has been apply neurolysis (15 cases). Surgery of cubital tunnel syndrome has been consist of transposition of ulnar nerve in 18 cases and with neurolysis in 10 cases. Guyon tunnel syndrome were treated with neurolysis in all 3 cases. Carpal tunnel and Guyon tunnel syndromes of the hand were treated by neurolysis(6 cases). All had well evolution after surgery at an average of 1,5-3 months. Was possible to investigate MAYO and DASH scores at 40 patients with a mean of 82±1 and 12±00.

Conclusions. A good surgery management of entrapment neuropathies of upper limb involved to take decision that making to avoid later entrapment neuropathies complications.

Key words: Entrapment neuropathies, tunnel syndrome, neurolysis

115. SURGICAL TREATMENT OF IDIOPATHIC SCOLIOSIS

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Introduction. Scoliosis is a complex deformity of the spine with a sideways curvature and vertebral torsion, with changes into neuro-muscular and connective tissues, with functional and organic disorders of different severity, with damage of the human psyche and psychosocial disability. The incidence of scoliotic deformities in adolescents is 14-17% and in idiopathic ones is 15,3% of the population with a ratio by gender women and men 3,5:1. The treatment of scoliosis is still far from being perfect, even though there are numerous contemporary methods of conservative and surgical treatment, performed at posterior and anterior structures of the spine.

Aim of the study. The purpose was to study and analyse the importance, efficiency, complications, the advantages and disadvantages of the new surgical procedures of correction, reconstruction and stabilization of the vertebral column of patients with scoliotic deformities of the spine, also to improve the outcome results in the surgical treatment all being based on a complex clinic-imagistical study.

Materials and methods. In order to fulfill the tasks, were analysed the results of surgical treatment applied during the period of 2017-2019 to the patients between 13 and 64 years old. To perform comparative analysis of surgical treatment all patients have been divided depending on age, sex, the surgical method, the type of spine deformity, the curative strategy, the implanted metallic construction, surgical approach.

Results. The average duration of intervention: 207,1±7,9 min. Intraoperative hemorrhage: 638,2±3,7 ml. The angle of deformity of the primary curvature: 46,60 – preoperative, postoperative correction: 22,20. The postoperative correction kept: 28,70.

Conclusions. The treatment of choice of severe forms of scoliosis remains the surgical correction of the spine. This allows the angle of scoliosis deformations to be reduced, correction of pulmonary, heart, vessels position. The efficiency of surgical treatment is appreciated not only by the cosmetic data obtained, but also by the re-establishment of the

function of the organs. The possibilities of surgical correction of scoliosis is directly correlated with the age at which the patient was operated and with the size of the initially scoliotic deformity. In patients with finished bone growth is indicated a posterior thoracic spinal fusion at the top of the scoliosis curve. In patients with unfinished bone growth, the sublaminar wiring are required to be made as slider constructions which helps at longitudinal sliding in the growth process. These results provide useful information concerning the indications and strategies of scoliosis surgery.

Key words: Scoliosis, endocorrectors

116. LATISSIMUS DORSI FLAP IN RECONSTRUCTION OF THE SOFT-TISSUE DEFECTS OF THE TRUNK

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Background. The purpose of clinical case presentation is to show potency of utilization latissimus dorsi flap in reconstruction of massive soft-tissue defect on the level of trunk. The use of a pedicled latissimus dorsi flap for reconstruction of large soft-tissue defects following musculoskeletal tumor excision provides adequate well-vascularized and healthy tissue to maximize the chances of successful mobility and minimize the risks of postoperative complications. The latissimus dorsi muscle flaps offers great variety and options to cover large defects in the mid-thoracic and upper-thoracic posterior trunk. It can be raised up to 30 cm × 40 cm in size and may be transferred as a muscular (eventually with additional skin grafts) or myocutaneous flap. The latter option makes postoperative monitoring considerably easier.

Case report. We will present a clinical case of 60-year-old woman, who was admitted in Department of Traumatology IMU with tegumentary defect, keratinized carcinoma of the back skin. According to the patient, she is considered sick from 2013, when the first signs of the disease appeared (on the background of the post-combustion scar presenting in the patient from the age of 3 years at the level of the upper back region) Locally were signs of hyperemia, hyperthermia, discomfort, pronounced pain. The patient underwent a histological examination in The Oncological Institute, May 2015, being diagnosed with : Carcinoma, keratinized pavements of the back skin. During June and July 2015 followed 2 radiotherapy treatments without positive response. On 15.09.2015 being operated at OI (excision of the formation) the post-operated period had a negative evolution. The surgical operation repeated on 12.10.2015 ,p/o period evolved with decisional suture threads and formation of tegumentary defect about 20x10cm. Considering the entire history of disease in Department of Traumatology III decided to perform the excision of the infected malignant outbreak from the back region and defect plasticity with Latissimus dorsi insular flap. We performed the oncological exesis of the malignant outbreak at a distance from the malignant edges of the defect at about 2-3cm .The actual defect obtained after exertion was 20x35 cm. The donor site of the flap was closed secondarily with a skin graft. Postoperatively: marginal necrosis of the flap that was resolved by excision of the necrotizing area and suturing of the wound, 2 weeks after plastic surgery. The complete treatment of the patient took place 40 days. At 3 years after the surgery the patient presents with a good result

Conclusions. Use of the pedicled latissimus dorsi flap in reconstructions provide sample well-vascularized soft tissue,minimizes the risk of infection and maximizes succesfful mobility salvage.For the same anatomic reasons of easy elevation and rotation ,the pedicle latissimus dorsi flap has been used successfully in extensive soft-tissue defects. The satisfactory data of such plastic recovery operations were clinically confirmed.

Key words: Latissimus dorsi flap,reconstruction,soft-tissue defect

117. TOTAL HIP ARTHROPLASTY REVISION AFTER A TRAUMATIC EVENT

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Background. Coxarthrosis is One of the most common disease of the hip joint in adults. It usually affects older people, the sex prevalence being almost equal for both genders. The peak incidence age is around 50 to 60 years old at the initial diagnosis. The total number of affected people if raising due to increasing life expectancy.

Case report. The patient, a 63 years old woman, accusing pain at the level of the left hip and functional impotence of the hip joint was admitted on 2nd of March at the Orthopaedics and Traumatology clinic. From the history of the patient we can find out that she undergone a total hip arthroplasty with an uncemented implant in 2006 and a cholecystectomy. The patient also suffers from type II arterial hypertension, treated with captopril, chronic venous insufficiency, varicose veins and bilateral gonarthrosis. The current state was given by a, traumatic fall which caused a traumatic aseptic mobilisation of the acetabular component, the femoral component being well fixed without any sings of mobilisation, condition which required a surgical intervention. The diagnosis was based off the CT, X-ray and negative ESR, CRP and fibrinogen, which confirmed the diagnosis. The operation took place on the 3rd of March and consisted of the revision of the total hip arthroplasty with the replacement of the acetabular component(uncemented cup) and the femoral head. Antibiotic prophylaxis with cefuroxime was also administered. The operation was successful, and the patient is now awaiting discharge.

Conclusions. Hip osteoarthritis is a medical condition that impairs people from walking causing pain and functional impotence. The standard treatment consists of total hip arthroplasty, which increases the quality of life and helps the patient walk again with less to no pain.

Key words: osteoarthritis, arthroplasty, coxarthrosis

118. PERIPROSTHETIC FEMORAL FRACTURES AFTER TOTAL HIP ARTHROPLASTY

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Introduction. Perioperative Femoral fractures occur in approximately 0,1% to 6% of all patients who have a total hip arthroplasty (THA) . Perioperative femoral fractures are found

mostly in elderly women with osteopenia or in patients who have had loosening of the femoral component. Periprosthetic fractures around the femoral stem after THA represent a significant and growing technical challenge for orthopaedic surgeons, requiring proficiency in both: THA and trauma care. Femoral fractures at the tip of a stem of a THA (Vancouver type B1 fractures) occur in 75% of all patients with periprosthetic fractures.

Aim of the study. To analyze the statistics of Orthopedics and Traumatology Hospital for the purpose of correlating them with the international statistics, and to demonstrate the incident rate of periprosthetic femoral fractures of all the revisions of hip arthroplasty that were performed in 2017-2019 years.

Materials and methods. The study group consisted of 23 cases of periprosthetic femoral fractures after hip arthroplasty treated between 2017 – 2019, 9 males and 14 females. Fractures were classified according to the Vancouver system and stratified as to treatment method.

Results. According to the study, out of 23 patients with periprosthetic femoral fractures, 5 of them were Vancouver type B1 fracture, 4 - type B2, 6 patients type B3 and 6 of them type C fractures. According to the statistics, 9 patients with periprosthetic fractures have the age between 70-80 years, 4 of them have the age between 50-60 years and 3 more than 80 years.

Conclusions. The results of the analysis shows us that periprosthetic femoral fractures appear in 20% of all the revisions of hip arthroplasties. The periprosthetic femoral fractures have a higher incidence because of the growth of THA, that is why a surgeon that performs a THA should be prepared for a possible revision of hip arthroplasty.

Key words: periprosthetic femoral fractures, Vancouver's classification, total hip arthroplasty.

119. THE TWO-STAGE SURGICAL TREATMENT VS PRIMARY INTERNAL FIXATION OF PILON FRACTURES

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Introduction. Tibial pilon fractures are severe injuries to the distal articular surface of the tibia and, although described for more than a hundred years, remain to be a challenge for the orthopedic surgeon, since it involves obtaining an anatomical reduction of the articular surface and an adequate management of the soft tissues, the lesions of which the most often dictate treatment options. Various treatment methods are available, depending not only on the fracture type but mostly on the extent of the soft tissue injury. Most frequent procedure is a two-stage surgery: the initial closed reduction of the fracture via primary placement of an ankle joint-spanning external fixator, if possible in conjunction with open reduction and internal fixation of the fractured fibula followed by a secondary procedure after soft tissue recovery by open reduction and internal fixation of the tibial pilon. The new types of low-profile and locking plates available for internal fixation can allow the anatomical reconstruction of the fractured articular surface in a single stage.

Aim of the study. This study was performed to analyse the results of staged treatment protocol and the primary internal fixation for treating distal tibial fractures.

Materials and methods. A literature search was performed using PubMed. The combination of words "tibial pilon fractures staged treatment AND primary fixation" has been used for searching.

Results. 21 articles were obtained as a result of the search. Six articles were excluded due to content (articles about primary arthrodesis, lymphedema and external fixator). Of the 15 articles included in the study, in 7 articles were presented the results of surgical treatment of pilon fractures in two stages, in 4 articles the results of the primary fixation and in 4 articles the comparative results of these two methods. In the studies the rate of infection (superficial or deep infection, osteomyelitis), malunion, nonunion, duration of hospital stay, neurovascular injury, pain intensity and patients' satisfaction with AOFAS score were compared between the two groups. There was no significant difference between the groups in measured variables except hospital stay which was significantly longer for the two-stage group. O'White, Carter, Duckworth and the co-authors recommend to treat definitely a patient with pilon fractures type C and Tscherne 1, 2 in one stage ORIF during the first 24 hours after the injury.

Conclusions. Recent studies demonstrate low complications with early definitive fixation of pilon fractures type C (AO/OTA). However, the overall prognosis for these injuries often remains poor.

Key words: Pilon fracture; Open reduction internal fixation; Two-stage surgery.

120. SURGICAL TREATMENT OF TIBIAL PLATEAU FRACTURES

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Introduction. Tibial plateau fractures represent approximately 1% of the total fractures in the general population and 8% among the senile age population. The peak incidence among men is between 30 and 40 years, while in women between 60 and 70 years. It is considered that most of such fractures are caused by road accidents and catatraumatism. Isolated fractures of the lateral plateau occur in 55-70% cases, 10-25% medial plateau and 10-30% are bicondylar. Approximately 90% of fractures are associated with different degrees of soft tissue injury and 1-3% are open. Tibial plateau fractures in 7 - 43% of cases are accompanied by collateral ligament injury and in 23% anterior cruciate ligament injury in high energy cases. Meniscus lesions have been reported in over 50% of cases. Fractures caused by high energy trauma can be associated with neuro-vascular lesions, compartment syndrome, deep vein thrombosis, soft tissue crushes or wounds. The frequency of failures and complications of surgical treatment of these lesions remains considerable. Although the development of modern surgical techniques and fixation implants has generally improved the functional results obtained after such fractures, however, the optimal way of managing these extremely complex lesions remains controversial.

Aim of the study. Analyzing the results and methods of surgical treatment of patients with tibial plateau fractures treated in Orthopedics and Traumatology Clinic "V. Bețîșor " during 2014-2018 years.

Materials and methods. They were analyzed 100 clinical cases: men – 40 and women – 60, mean age 54 years. Trauma circumstances: habitual trauma – 75 cases, traffic accident – 15, precipitation – 6, sport – 3, aggression – 1. Schatzker classification was used: type I was met in 10 cases, II – 25, III – 15, IV – 5, V – 28, VI – 17; 95 close, 5 open. For imaging examination were used X-ray and CT. Surgical treatment consisted of: close reduction , internal fixation -

15 cases (10- percutaneous canulated screws arthroscopic assisted, 5- external fixator), open reduction, internal fixation – 85 cases. Bone graft was done in 20 cases.

Results. Postoperative follow up was performed at 6, 12, 18, 24 weeks. Patients were evaluated according to the Lysholm Knee Scoring Scale, obtaining an average score of 86 points. Bone healing was noticed in a period of between 12 to 18 weeks. Postoperative complication developed in 15 cases. Results were depending on the stability of fixation, precocity, rightness of functional recovery and patient compliance.

Conclusions. Favorable functional results and less complication were meet in cases of individual approach of surgical treatment, the suitable choice of implants and less invasive surgical techniques.

Key words: fracture, tibial plateau, treatment

121. BREAST RECONSTRUCTION ON IRRADIATED TERRITORY USING TISSUE EXPANDER TECHNIQUE AND LATISSIMUS DORSI FLAP: A CASE REPORT

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Background. Postmastectomy radiation therapy is a well-established risk factor for complications before and after breast reconstruction. The reconstruction of a large variety of breast cancer surgery defects, especially on a pathologically modified field can be challenging for plastic surgeons, autologous tissue transfer being often indicated to achieve improved tissue quality during breast reconstruction after radiotherapy. The aim was to discuss the approach in a modified irradiated territory for breast reconstruction and analyze satisfaction with aesthetic outcome between patient and plastic surgeons.

Case report. A 33 years old female after a total unilateral breast mastectomy due to breast cancer. After surgery she followed 3 cycles of radiatio-therapy. At 6 months after primary surgery she undergone a comprehensive multilateral examination after which has received medical agreement for breast reconstruction of the amputated breast. During examination at admission in Plastic surgery clinic, she has been complaining on pain in the region of the scar left after mastectomy which were exacerbated during thoracal inspiration. In the first stage of the treatment it was decided to remove the aggressive adhered on hemithorax scars and to reconstruct the remained defect after scars' removal with a pedicled latissimus dorsi flap. The second stage - implanting a tissue expander with a maximum volume of 500 ml, followed after recovering from the first stage. The third stage took place after filling the expandable balloon. Under the tissue's excess instead of expander we have placed a mammary prothesis.

Conclusions. Among the plethora of breast reconstruction techniques, the LDF is a versatile, reliable means for soft tissue coverage, providing form and function with acceptable perioperative and long-term morbidities, especially in patients with previous radiation. Using plastic, reconstructive and aesthetic surgery methods in a correct order allows to rebuild the breast after oncological amputations even if the region was actinically treated.

Key words: breast reconstruction, latissimus dorsi flap, dermotension, actinic radiation.

122. PEDICLED GROIN FLAP FOR SOFT TISSUE COVERAGE

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Background. The groin flap is a vascularized axial flap based on the superficial circumflex iliac artery arising from the femoral artery just below the inguinal ligament. It is regularly used by many reconstructive surgeons to cover soft tissue defects of the abdomen, hand, arm and forearm. The groin flap has several advantages including adequate skin thickness and minimal donor site morbidity, making it the most usable free flap for soft tissue coverage. The disadvantages of the flap include a rather short pedicle and the small artery size. The groin flap was the first successful skin and soft tissue free flap, described by McGregor and Jackson in 1972. It provides a large amount of skin coverage with an easily restored donor site. Groin flap is a viable option for patients who are not candidates for free tissue transfer because of comorbidities and when the utility of microvascular technique is not feasible. We present a case report outlining the effectiveness and usefulness of this type of pedicled flap.

Case report. A 68-year-old woman sustained a cholecystectomy in the surgery department, which was complicated postoperatively with ventral hernia of the abdominal wall. It was made an attempt to resolve it with the surgical treatment, but 12 days after the surgery, the patient presented a soft tissue defect, a surgical mesh on the abdomen wall being visualized. It was decided to perform surgical treatment of the abdominal defect and plastic surgery with vascularized groin flap. Necrosis of the cutaneous flap component occurred postoperatively. But fascia which remained viable was sufficient to cover the surgical mesh and served as a vascular bed for free split skin graft.

Conclusions. We believe that the pedicled groin flap can be used safely and effectively in the soft tissue coverage. At the same time, it can preserve the aesthetic and functional properties of tissues. The technique is quick, facile, and reliable, with few complications. Despite the fact that this type of flap is used less, it represents the optimal solution in the case of lack of skin tissue and soft tissue. This case report demonstrates the versatility of the groin flap in closing complex soft tissue defects of the abdomen wall.

Key words: groin flap, abdominal defect, reconstruction, pedicled.

123. PERCUTANEOUS NEEDLE APONEUROTOMY

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Introduction. Dupuytren's disease is a benign, slowly progressive disorder, which affects the palmar fascia, that become tight and shortened and conduct to irreversible flexion posture of the fingers, that leads to hand deformity and impaired hand function. It can affect any of the

fingers, but it most commonly affects the little finger and ring finger. It can occur in only one hand or in both hands at the same time. The most used treatment approach is surgical resection of the fibrous tissue by limited fasciectomy, but it carries a long recovery period and significant rate of complications. Percutaneous needle aponeurotomy is a minimally invasive needle technique, for mild to moderate Dupuytren contractures, with perfect short term results and fast recovery period, with no loss of function and with few complications.

Aim of the study. To present our experience with a minimally invasive technique of percutaneous needle aponeurotomy and making recommendations about the safety and efficacy of this interventional procedure.

Materials and methods. Our experience in percutaneous needle aponeurotomy was performed in the Plastic, Aesthetic Surgery and Reconstructive Microsurgery Clinic of the Emergency Medicine Institute. We treated 21 cases with Dupuytren contracture using this procedure, from 2016 to 2019 year. This treatment tends to restore hand function with minimally invasive intervention and to prevent progression, with minimum complications.

Results. Men are more likely to be affected than women, and the symptoms of disease are more severe in older men. The goal of the surgery was to reduce the contracture and improve motion of the affected fingers. After percutaneous needle fasciotomy, patients quickly recovered hand function, returning to daily activities. In some cases, to avoid recurrences, that according to different authors are between 12%-73% and also depend on the severity of the disease, percutaneous needle fasciotomy may need to be repeated. Also is important to do regular hand exercises, in obtaining the best results.

Conclusions. Percutaneous needle fasciotomy is a minimally invasive treatment option for mild to moderate Dupuytren contractures in the metacarpophalangeal and proximal interphalangeal joints, and the procedure requires limited resources. Multiple contractures can be treated during the same session and the treatment is considerably easier for the patient and requires a minimum of rehabilitation, compared with open fasciectomy. Patients report a greater aesthetic and moral satisfaction.

Key words: Dupuytren's disease, contracture, palmar fascia, percutaneous needle fasciotomy, minimally invasive technique, fast rehabilitation.

124. THE VASCULARIZED BONE ALLOTRANSPLANTATION - IN A RABBIT MODEL, PRELIMINARY REPORT

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Introduction. The use of bone transplant has been a successful step in the treatment of a large number of diseases of the osteoarticular system. But a massive bone defect remains a dilemma for contemporary reconstructive surgery. Contemporary methods that are used, for the reconstruction of the bone structure, have a high level of morbidity and complication. Specialized literature indicates the absence of an optimal solution in massive bone defects healing. Maintaining the osteoplastic properties of the vascularized autograft; combining them

with the orthotopic characteristics of an allogenic bone would be a successful alternative for the reconstructive surgery of the skeletal system.

Aim of the study. To determinate the optimal bone segment for allotransplantation and his sources of vascularization, on the femur in the rabbit model for tissue engineering.

Materials and methods. The study of the vascularization of the femoral bone was performed on laboratory animals (rabbits). After euthanasia and the femoral bone segment harvesting with a soft tissue without destroying the vascularization. In the abdominal aorta was injected contrast material, with the subsequent preparation of the arterial vessels. Followed by anatomical study, radiography, histology, microangiography of this vascularized bone segment. Thus we determined the vascularised bone segment which could be used as one graft for further conservation.

Results. The optimal segment for vascularized allografting (the rabbit model) was the upper third of the femur with the lateral circumflex femoral artery.

Conclusions. The success after bone vascularized allografting is ensured by keeping the circulation on arteria nutricia and microcirculation of blood. The vascular living allogeneic bone without immunosuppression would be a perfect alternative in the treatment of the massive bone defects.

Key words: vascularized bone grafts, bone allograft surgical revascularization, angiography

125. AMNIOTIC MEMBRANE IN THE TREATMENT OF DEFECTS IN DIABETIC PATIENTS

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Introduction. One of the most current and complicated aspects of plastic surgery is the treatment of defects in diabetic patients. The inefficiency of the conservative treatment and the the surgical interventions with the sacrifice of other healthy tissues requires the use of new methods of treatment

Aim of the study. Optimizing the local regeneration in patients with peripheral circulatory disorders using biological materials obtained through tissue engineering

Materials and methods. We initiated a study in a group of 5 patients with peripheral circulatory disorders with chronic non-healing wounds (> 30 day duration). The patients were selected to evaluate the performance, safety and handling properties of dehydrated human amnion / chorion membrane allograft. All five patients received only one application of dehydrated human amniotic membrane and there were no adverse effects.

Results. Was obtained optimization of local regeneration in patients with peripheral circulatory disorders by tissue engineering methods

Conclusions. The research in this direction will establish the perfect combination of support material for cells and growth factors, for a faster and qualitative epithelialization, thus facilitating epithelialization of ulcers and wounds in patients with circulatory disorders

Key words: diabetes, wounds, tissue engineering

126. CONTEMPORARY PRINCIPLES OF DIAGNOSIS AND TREATMENT OF TIBIAL PLATEAU FRACTURES

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Introduction. Fractures of the tibial plateau are articular fractures that can severely affect the function of the knee if a not treated or treated incorrect. Often the definitive diagnosis is made postoperatively or remains without details due to the wide association of lesions of soft structures, invisible on radiological lines.

Aim of the study. Analyzing of contemporary methods of treatment and diagnosis of tibial plateau fractures

Materials and methods. This information is based on a review of different articles from the open access databases: PubMed, PMC and GoogleScholar, using the

Results. Tibial plateau fractures are complex injuries that most often affect young adults or the ‘third age’ population. These fractures usually have associated soft-tissue lesions that will affect their treatment. Associated soft tissue injuries in tibial plateau fractures can be divided as soft tissue envelope lesions, neurovascular injuries and intra-articular lesions. Lesions of the ligaments and/or the menisci has been reported in several studies and may contribute, if not properly treated, to the substandard outcomes associated with this type of fractures. Traditionally, meniscal tears are reported in 20-50% cases of all the tibial plateau fractures, while ligaments lesions are reported in 10-30%. Typically the Schatzker or AO/OTA classification is used, but the concept of the proximal tibia as a three-column structure and the detailed study of the posteromedial and posterolateral fragment morphology has changed its treatment strategy. Partially articular fractures can be treated by minimally-invasive methods and arthroscopy is useful to assist and control the fracture reduction and to treat intra-articular soft-tissue injuries. The imaging studies routinely performed for tibial plateau fractures are plain anteroposterior and lateral radiographs and threedimensional CT, while MRI has not yet become a standard tool. The final outcome of surgical treatment may be influenced by associated lesions of the menisci or of the knee ligaments.

Conclusions. Tibial plateau fractures are severe injuries, usually associated with soft-tissue lesions and complications. Minimally-invasive osteosynthesis, when possible, is recommended in partial articular fractures. The indications of the surgical treatment appear from: the state of the soft tissues, the quality of the bone, the type fractures and conditions for early rehabilitation of the patient. Patients suffering a tibial plateau fracture should be aware of the residual pain and functional limitations that can appear in the mid- and long-term.

Key words: tibial plateau, fracture, diagnosis, operative approach

127. THE SURGICAL TREATMENT IN KIENBOCK DISEASE

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Introduction. Kienbock disease is a disorder of lunate bone vascularity that can lead to marked degeneration of the wrist, reduce grip strength and causes pain, getting to joint disability. The etiology of the avascular necrosis of the lunate is uncertain, but theories relate to ulnar variance, the variability of the bone vascularity and intraosseous pressures. Clinical symptoms are very variable, requiring a high index of suspicion for the diagnosis. Dr. Robert Kienbock an remarkable radiologist from Vienna (Austria), first described lunato-malacia in 1910 in his clinical series and initially felt that the cause of the collapse of the lunate was repetitive trauma to the lunate from work activities. This opinion was supported by Muller in 1920 who proposed the term occupational lunato-malacia. Stahl's classification, modified by Lichtmann in 1977, has historically been used to guide management. Despite this disease being described more than a century ago, the treatment for Kienbock disease still remains controversial.

Aim of the study. We present a review of Kienbock disease and the main objective is to report our personal experience of surgical treatment of this condition at The Clinical Hospital of Orthopedics and Traumatology from Chisinau.

Materials and methods. Our experience is based on the surgical treatment of 45 patients with Kienbock disease, aged between 19 and 59 years, who underwent various surgical treatment. At 19 patients was performed Graner procedure, scaphoid-trapezium-trapezoid arthrodesis in 10 cases, scapho-capitate arthrodesis in 8 cases, radio-lunate arthrodesis in 4 cases, removing the first row of carpal bones in 2 cases, by 1 cases with radio-scaphoid and capitato-lunate arthrodesis.

Results. Arthrodesis directed to obtain ankylosis of the carpal bones by losing the amplitude of movements but allows to achieve a stable joint, without pain and to restore gripping power. The advantage of the Graner procedure is restoring the carpal height and maintaining the load transmitted by the articular surface of the radius in the articular facets of the scaphoid and semilunar. Long-term results were followed up in 23 patients: good - 12, satisfactory - 9. Unsatisfactory outcomes were in 2 cases because of the absence of the ankylosis and presence of the pain.

Conclusions. While the exact cause of Kienbock disease is still poorly understood, several treatment options are available: revascularization, denervation, intraosseous decompression, osteotomy in ulnar variants, selective arthrodesis with or without excision of the lunate. From our experience, the most of patients have good long-term results.

Key words: Lunate, Kienbock disease, Graner procedure, arthrodesis.

128. THE MANAGEMENT OF THE POLYTRAUMA PATIENTS

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Background. Polytrauma meets the classification criteria for a global pandemic and it is a significant cause of mortality and morbidity despite global efforts to control its effects. Around 16000 people in the world die every day as a result of trauma (5,8 million people per year) and the forecast for 2020 is no better, the surveys show that this year there are expected around 8,4 million deaths. Management in polytrauma patients has been considerably changed in recent years, due to the rapid development of multi-fracturing techniques. Despite the implementation of good methods of diagnosis and treatment, there is no reduction in complications and invalidations from trauma, which is explained by the severity of this injuries. Without measures

to combat and improve treatment methods, they will lead to an increase in socio-economic harm over the next 10 years. More than 70% of all patients with major trauma need at least one orthopedic surgical procedure, and injuries of the extremities are associated with higher blood transfusion rates, prolonged hospitalization time and many other complications. The modern treatment concept of Damage control surgery of poly-trauma patients allows us an objective assessment and separation of urgent therapeutic measures according to the severity of the injuries. Thus, osteosynthesis of traumatized segments of the locomotor system must be performed according to this contemporary concept depending on the severity and complexity of the lesions, and by achieving this attitude of urgent medical care, the damage control surgery enables reduced mortality and the prevention of complications in polytrauma patients.

Case report. Patient X aged 63 years old got a trauma after she got involved as a pedestrian in a car accident. She was immediately transported to IMSP-IMU in emergency department, she being in a serious condition, hemodynamic unstable and without entrapment of the limbs and the application of the fence, which led to massive blood losses. The patient was examined in the red zone by the multidisciplinary team according to the principles ATLS, after a series of lab and radiology investigations the diagnose that was established was the following: Polytrauma. Associated traumatism. TCCI. Cerebral contusion. Bilateral lung contusion. Hemopneumothorax on the left. Open fracture of the distal end of the femoral bone, tibial plateau and of the fiber colt on the right. GA – type III C. Bimaleolar open-line fracture of the right ankle. GA – type II. Fracture of left-hand olecranon, after AO – 2U1B1. Trauma shock IIIrd grade. Acute polyorganic insufficiency. Sub-arachnoid hemorrhage. CGS – 5p MESS score – 10p. Patient at admission: TA- 70/45 mm/Hg, Hemoleucocogram : Erythrocytes – 3,3 (x106/ μ l); Hemoglobin – 92 g/L; VSH – 15 mm/h; Platelets - 170 (x109 μ L); Leukocytes – 6,6 (x109/ μ l). In biochemical examination: ALAT – 147 U/I; ASAT – 366 U/I; direct Bilirubin - 8 mkmol/l; indirect Bilirubin - 14 mkmol/l; total Bilirubin – 22 mkmol/l; Creatinine – 119 mkmol/l; urea – 6,6 mkmol/l; Glycine – 8,1 mkmol/l. The patient was urgently transferred to the operating room. The surgery team performed: thoracentesis in the intercostal space VI on the left with the application of the Bullau drain. The team of orthopedic traumatologists performed: The unfastening of the open fracture of both the bones of the left calf and the fixation to the external tiered apparatus. Left lower leg amputation at thigh level in 1/3 mid-distal. After these interventions, the patient was transferred to the reanimation room. More than 4 hours after the intervention, at the surgeons visit, he repeatedly indicates FAST USG, where liquid is detected in the abdomen. The patient was taken in the surgery room repeatedly by the surgical team, where they performed: Laparotomy. Ligaturation of the lymph duct in the abdominal portion with revision of the abdominal cavity organs. The patient being in a severe stable condition was transferred to The Reanimation room again. More than 48 hours after hospitalization, the overall state is getting worse. On the background of major cardiomimetic drugs, asystole cardiac arrest occurs at the patient. The CPR protocol has been initiated, but without success, and it resulted in the patient's biological death.

Conclusions. Polytrauma describes patients with lesions that involve multiple regions or cavities of the body that may compromise the integrity of the internal organs, extremities and soft tissues, and may result in their death in most of the cases. In multi-traumatized patients, rapid collaboration and effective multi-disciplinary team approach is needed, as negative effects occur immediately and may endanger the life of the patient, and the “Orthopedic injury Control” (DCO) allows us to use different types of fixatives in primary osteosynthesis in polytrauma patients.

Key words: Polytrauma, DCO, TA, TCCI, GA, ATLS.

129. FRACTURES OF THE METACARPAL BONES, CLASSIFICATION, DIAGNOSIS, TREATMENT

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Introduction. Fractures of the Mt (Mt) bones present a range of 19% - 35% of the osteoarticular system trauma. 88 % fracture of Mt fractures are the rays 2-3-4-5, and the fifth Mt bone have up to 10% of hand bone fractures.

Aim of the study. To evaluate the intermediate term results (follow up of two years) of distal humerus fractures according to data from medical records, classification, type of implant used in fracture fixation, specific parameters of elbow postsurgical treatment.

Materials and methods. We have proposed a study of patients with fractures of the Mt bones which consecutively was treated in departament of Hand Surgery with the application of microsurgical techniques, of Traumatology and Orthopedics Clinical Hospital, Chisinau in the period 2018-2019. Final outcomes was determined by using Disabilities of Arm and Shoulder and Hand (DASH) score and the wrist MAYO score calculated along with complete range of motion. All results were presented as mean \pm standard deviation (\pm SD).

Results. First Mt fracture was in – 10 cases (5 cases - shaft fracture; Rolando/Bennett fractures -5 cases), fracture of 2 or more rays 10 cases, and rest cases were one ray Mt bone fracture - 115 cases, where 75(55,5%) patients has been with subcapital fractures of fifth Mt bone, and in total were investigate 135 patients. The average age is 30,05 years (max 67, min 15 SD \pm 10,45) The report between sex was 8,4:1 (121:14) with predominance of male gender. In fresh and less comminuted fractures cases was achieved close reduction of Mt and fixation was obtained with k-wires in 56 (41,8%) cases.. In rest patients were apply open reduction and internal fixation with the k-wires by segment fracture of Mt subcapital fracture - 43(31,85%) patients, shaft segment 30 (22,22%) patients, and 10 (7,41%) with fracture of the base of Mt. All fractures healed, and radiographic union was observed at an average of 1,5-3 months. Was possible to investigate MAYO and DASH scores at 19 patients with a mean of 88 \pm 19 and 19 \pm 20.

Conclusions. Outcome of open reduction and internal fixation of fractures of the Mt bones usually can result in high union rates, and a good result can be obtained with perfect reduction of the Mt fragments fracture and it is desired as soon is possible for an acceptable outcome DASH and MAYO scores.

Key words: Mt bone, fracture fixation, k-wires

130. CALCANEUS FRACTURES

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Introduction. Calcaneus fractures are the result of high energy trauma, falls from height, road accidents. Calcaneus fracture constitutes 60% of the Tarsian fractures, 75% of them are intra-articular and represent 2% of the total fractures, more commonly happens with men between 21-45 years (90%).

Aim of the study. The study of contemporary literature with reference to the treatment of calcaneus fractures with the purpose to assess the treatment strategy.

Materials and methods. There were 28 literary sources, articles and scientific papers studied.

Results. Signs of calcaneus fractures are: deformation of the calcaneous region accompanied by its widening transversely, deletion of the malleolar reliefs and of the Ahilian tendon, flattening of the plantar arch and the "numeral" ecchymosis in the plantar area, mobility in the ankle joint is diminished. The degree of movement of the fragments depends on the kinetic energy of the trauma. The evaluation of a calcaneus fracture begins with radiography in 2 projections, anterior-posterior, with the calculation of the Bohler and Gissan angle and the axial projection (Harris). Bohler classification (usually 20-40) is a criterion for assessing the severity of the fracture. The gold standard in the diagnosis of calcaneus fractures is the computed tomography using the Sanders classification and in case of lack of CT examination the Broden projections are made. Treatment depends on the anatomical-clinical form of the fracture. Orthopedic treatment is indicated for fractures without displacement, as well as for the thalamic (Sanders I) and for the extratramic ones. Graffin type gypsum immobilization is done if the soft tissues allow. If not, the foot will be put in a prone position with the mobilization of the fingers and ankle joint from the first days. Percutaneous osteosynthesis with cannulated screws is indicated for extratramic fractures. Surgery is indicated for thalamic fractures Sanders III-IV - open reduction and osteosynthesis with plate and screws. The optimum time for surgery is in the first 3 weeks and when the "Wrinkle" test is positive. The outcome of the surgical treatment as well as the orthopedic treatment is influenced by the factors related to the patient (diabetes, peripheral vascular disease, obesity, smoking, the elderly, late addressing, serious injuries associated) as well as the path of the fracture.

Conclusions. Patients with calcaneus fracture treated surgically have a shorter rehabilitation period compared to those treated orthopedic. The functional result is better when the Bohler angle and the anatomical reduction is restored.

Key words: Fracture, calcaneus

131. THE POST- ONCOLOGIC RECONSTRUCTION OF INFERIOR LIMB WITH PERFORATOR FLAP

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Background. Many patients with tumors on both superior and inferior limbs can benefit from reconstruction surgery, using different methods, in accordance with the tumor type and how radical the surgery was performed. In our country, the most used surgical technics are related to the use of different types of flaps.

Case report. A 57-year-old man with diabetes type II for 10 years, presented with a 20-year history of static non-healing ulcer at the left Achilles tendon level after a car accident. The

biopsy revealed squamous cell carcinoma. The surgery includes wide resection of the Achilles tendon and calcaneus bone, with the resulting defect of 12x16 cm. The reconstruction was performed with tendon-fasciocutaneous peroneal artery perforator flap, in a propeller manner translation, with good function of the limb with minimum recovery time.

Conclusions. The decision of the reconstructive technique should be taken into account regarding its consequences of the affected anatomical structures, the personal pathological antecedents and pre-existing lesions at the level of the donor area.

Key words. Reconstructive surgery, perforator flap, clinical case.

INTERNAL MEDICINE SECTION

DEPARTMENT OF DERMATOVENEROLOGY

132. PHENOTYPIC APPROACH OF TREATMENT IN ROSACEA

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Introduction. Rosacea is a chronic inflammatory disorder. The prevalence of rosacea is highest among fair-skinned individuals, and according to some studies constitutes up to 10% of the adult population. Although it is a common dermatologic condition, rosacea is shockingly overlooked. The aetiology, pathogenesis, the clinical manifestations and management of rosacea still remain disputed. The classic treatment, based on classification of rosacea in 3 successive clinico-evolutive forms (erythematous-telangiectatic, papulo-pustular and phymatosa) remains weak resulting for some patients.

Aim of the study. Development of an individualized treatment based on clinical assessment of phenotypic expressions in rosacea.

Materials and methods. Published literature of the last 5 years, involving the therapeutic behaviour in rosacea, was examined and summarized.

Results. Rosacea is a common cutaneous condition that is frequently overlooked. As a result of its multifactorial nature and characteristic relapsis and remissions, diagnosis is complex. Although rosacea is known to be an angio-neurosis, the types of skin haemodynamic disorders that are likely to induce different clinical manifestations of the disease have not been appreciated yet. In this study, was analyzed the therapeutic action of topical and systemic drugs used in rosacea and their efficacy according to the phenotypic expression of the disease. Were appreciated the therapeutic effects of topical drugs such as: Brimonidine, Oxymetazoline, Ivermectin, Metronidazole and Azelaic Acid , as well as systemic therapies with Azithromycin, Doxycycline, Propranolol, Sulodexid and Isotretinoin, for each phenotypic lesion separately. As a result, were determined the drugs that had the highest clinical efficacy for the control of erythema, telangiectasias, papules, pustules, granulomatous or phymatous-lesions of rosacea. Topically applied Brimonidine and Oxymetazoline have been shown to be more effective for controlling erythematous flushes than Metronidazole or Azelaic Acid. Ivermectin had good results in the control of papules and pustules for uncomplicated rosacea forms. Systemic therapy with Propranolol has good clinical efficacy and better result than Doxycycline in the control of

erythema and telangiectasias in patients with erythematous-telangiectatic and papulo-pustular rosacea. The phimosis monitoring in rosacea can be performed by systemic administration of Isotretinoin.

Conclusions. 1. Clinicians are encouraged to determine the lesion phenotype in patients with rosacea and to select an optimal individualized treatment. 2. The treatment of skin hemodynamic disorders in rosacea with vasoactive therapies with beta-blockers, antithrombotics and flavones, has a curative potential that should be studied.

Key words: Rosacea, erythema, papules, pustules, phenotypic

133. NAIL PSORIASIS - A REVIEW

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Introduction. Psoriasis is a chronic multi-system inflammatory skin disease with a strong genetic predisposition and autoimmune pathogenic traits, with a worldwide prevalence of 1–3%. Beyond the physical dimensions of disease, psoriasis has an extensive emotional and psychosocial effect on patients, affecting social functioning and interpersonal relationships (Kim WB1, Jerome D, Yeung J., 2017), mostly affecting the skin, its skin appendages and joints. Nail involvement is an extremely common feature of psoriasis, affecting 10–90% of adult patients with plaque psoriasis, and has been reported in 63–83% of patients with psoriatic arthritis (An Bras Dermatol., 2015). There have been reported twice as many patients with nail involvement suffering from psoriatic arthropathy. Because the Psoriasis Area and Severity Index (PASI) does not consider the severity of nail disease, a scale that assesses the extent of involvement of psoriatic nails is needed. A new grading system, the Nail Psoriasis Severity Index (NAPSI) has been proposed.

Aim of the study. To provide clinicians with an up-to-date and practical overview of the diagnosis and management of nail psoriasis and with a Nail Psoriasis diagnosis tool

Materials and methods. Fingernails of 11 patients with PsA were photographed and scored. Clinical data were collected. Each nail was divided into four quadrants and any nail plate (pitting, leukonychia, red spots on lunula, crumbling) and nail matrix alterations (onycholysis, splinter hemorrhages, subungual hyperkeratosis, oil stains) found were accounted for according to the following: 0 = none, 1 = presence in one quadrant, 2 = presence in two quadrants, 3 = presence in three quadrants, 4 = presence in all quadrants, generating a score that varies from 1-80 for fingernails. A median score has been calculated.

Results. Nail psoriasis mostly affects men, is more likely to be associated with severe skin psoriasis and is strongly associated with psoriatic arthritis, affecting almost 100% of Psoriasis patients.

Conclusions. The method was easy for assessment and of prompt execution while potentially bringing information about changes in nail plate and matrix, that can be further correlated with cutaneous and articular manifestation.

Key words: Psoriasis, Nail bed, Nail matrix, Nail psoriasis, NAPSI

134. CUTANEOUS MICROBIOME IN ROSACEA

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Introduction. Rosacea, one of the most common dermatoses affecting predominantly adults between the ages of 30 and 60, is a chronic skin condition manifested by persistent Centro facial erythema, telangiectasia, papules, pustules and in advanced stages, fimes. It is divided into four subtypes - erythemothelangiectatic, papulopustular, phytomatous and ocular. The prevalence rates are controversial, estimating affecting up to 15% of certain populations. It is more common in women, but rhinophyma is observed exclusively in men. Due to its multifactorial nature, the relapses and characteristic remissions, the diagnosis is complex. Even if there is no definitive treatment, there are effective options that can be adapted to the symptoms and severity of the disease.

Aim of the study. This review of the literature has the purpose to highlight the skin microbiome and its involvement in the pathogenesis of patients with rosacea.

Materials and methods. To identify relevant articles, ScienceDirect, Wiley Online Library and NCBI databases were searched using the

Results. Although the concret pathogenesis of rosacea is unknown, it is assumed that this results from a combination of congenital immune system dysfunction, aberrant neurovascular signaling and dysbiosis of commensal microorganisms, all of which lead to the initiation of pro-inflammatory cascades. Considering the use of antibiotics in the treatment of rosacea, it is assumed that bacteria can be a causative factor. Studies have documented in patients with rosacea, the presence of higher concentrations of *Demodex folliculorum*, its role, however, is unclear and controversial. In humans, two species of *Demodex* are described, *folliculorum* (at the level of the follicular infundibulum) and *brevis* (at the level of the sebaceous glands), located especially on the face, scalp and upper thorax. *Bacillus oleronius* is also mentioned in patients with specific subtypes of rosacea, which stimulate a strong inflammatory response, through MMP-9, TNF α and IL-8.

Conclusions. Some microorganisms are mentioned as having a pathogenetic role in rosacea, but no direct correlation with the incidence of the pathology has been clearly defined. Although isolated *Demodex* do not appear to be the cause of rosacea, they may be an important cofactor, especially in papulopustular rosacea, by triggering a delayed hypersensitivity reaction, possibly to antigens of follicular origin, linked to *Demodex folliculorum*, stimulating the progression of the disease. Due to its deeper localization, *Demodex brevis* is more difficult to identify and that is why many studies mainly refer to *Demodex folliculorum*.

Key words: skin microbiome, rosacea, demodex.

135. DIAGNOSTIC TRAITS OF NEUROSYPHILIS AMONG PEOPLE LIVING WITH HIV

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Introduction. Neurosyphilis is the infection of the central nervous system by *Treponema pallidum* which can occur at any stage of the syphilis (1). Taylor et al. reported a 2.1% incidence of neurosyphilis among population with HIV compared to 0.6% in people without HIV (1,2). HIV coinfection more often predispose *T.pallidum* towards neuroinvasion. The presentations of neurosyphilis includes meningitis, meningovascular disease, cranial nerve involvement, general paresis and tabes dorsales (1,3). In contemporary literature its emphasized that HIV coinfection increases the rate of early neurosyphilis with more severe course and higher risk of serological failure.

Aim of the study. In present study, we aimed to identify clinical and laboratory features of neurosyphilis presentation among people living with HIV/AIDS.

Materials and methods. Retrospective study was carried out in the cohort of patients with HIV/AIDS referred to the inpatient department of Hospital of Dermatology and Communicable Diseases in Chisinau, Republic of Moldova.

Results. Since 2017 and up to 2020, a total number of 8 patients with HIV/AIDS manifesting neurosyphilis were determined. 5 out of 8 patients developed early forms of nervous system alteration provoked by *Treponema pallidum* (*T.pallidum*) invasion, including meningovascular ischemic presentation and optic nerve involvement. 3 patients were diagnosed with late form of neurosyphilis – general paresis. Rapid plasma reagins (RPR) non-treponemal test was extremely positive in serum of all patients with neurosyphilis enrolled in study, especially among those who manifested the early forms of the disease with titers ranged from 1:32 to 1:64. Treponemal tests (TPHA and ELISA) were both positive in patient's blood. In cerebrospinal fluid (CSF) serological reactions for *T.pallidum* presented differently: RPR test was positive in early neurosyphilis and respectively negative results were seen among patients with late forms. Treponemal tests in CSF showed peculiar results too, TPHA was positive in all cases together with high levels of anti-treponemal immunoglobulins G (IgG) assessed by immunoenzymatic assay (EIA). Presence of anti-treponemal immunoglobulins M, in patients CSF, were determined in 2 out of 8 patients who manifested early forms of disease and in 1 with general paresis. CD4⁺ cells count ranged from 36 up to 200 cells/ml. All the patients received antibiotic therapy via intravenous administration. Just 2 out of 8 patients enrolled in this study were diagnosed with clinical and serological cure of neurosyphilis, 2 patients have died, another 4 manifested only partial recover.

Conclusions. Evolution of neurosyphilis among patients with HIV depends on the degree of immune system dysfunction together with anatomical sites of brain alteration (meningea, blood vessels and cranial nerves or brain parenchima). Duration of *T.pallidum* neuroinvasion, initiation of antibiotic therapy along with neuroprotective medication are either important.

Key words: neurosyphilis, HIV-coinfection, diagnosis

136. THE WORLDWIDE EPIDEMIOLOGY OF ROSACEA

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Introduction. Rosacea is a common, chronic disorder that can present with a variety of cutaneous or ocular manifestations. Skin involvement primarily affects the central face, with findings such as persistent centrofacial redness, papules, pustules, flushing, telangiectasia, and phymatous skin changes. Ocular involvement may also occur, manifesting with lid margin telangiectases, conjunctival injection, ocular irritation, or other signs and symptoms. The worldwide epidemiology of rosacea remains unknown, although it is a common condition associated with other diseases outside the skin.

Aim of the study. To perform a review of the published literature to examine the global epidemiology of rosacea.

Materials and methods. A systematic review of population-based and dermatological outpatient studies reporting frequency of rosacea was performed using three electronic medical databases: PubMed (7), Embase (5) and Web of Science (4)

Results. Rosacea affects mainly adults around the age of 30 years and classically predominates in females. Recent Estonian and Irish studies suggest that the female predominance may not be as high as previously believed. However, prevalence does increase with age. The prevalence statistics published in Europe and the United States are highly variable, ranging from less than 1% to more than 20% of the adult population. Rosacea has been reported in countries whose populations have significant proportions of people with skin of color throughout Africa, Asia, and South America, with rates up to 10%. Although only 15 cases of rosacea were observed in a South African dermatology clinic over an 8-year period, during which 6700 patients were examined, all of these cases occurred in patients with Fitzpatrick skin phototype V (Dlova, N.C. and Mosam, Clin Exp Dermatol. 2017) Likewise, an epidemiologic study in Colombia reported a rosacea prevalence of <3%, but ~12% of the 291 patients with rosacea had Fitzpatrick skin phototype IV or V (Rueda, L.J., Motta, A., Pabon, Int J Dermatol. 2017) . An even greater percentage was revealed in a study of 168 Korean patients with rosacea; nearly 40% of these patients had Fitzpatrick skin phototype IV or V (Bae, Y.I., Yun, S.J., Lee, J.B., Kim, S.J., Won, Y.H., and Lee, S.C. Ann Dermatol. 2009). Rosacea diagnosis in patients with darker skin has also been reported in European countries. An analysis of 348 workers in Estonia showed a 20% prevalence of rosacea, with 55% of cases occurring in patients with Fitzpatrick skin phototypes I and II, as would be expected. Also, the Estonian study also showed that ~38% of the patients had Fitzpatrick skin phototype III and 7% had phototype IV.

Conclusions. Estimated worldwide epidemiology of rosacea based on published data and found that 5-46% of the adult population is affected. However, the prevalence of rosacea depended on the diagnostic method, with higher estimates in questionnaire studies of rosacea symptoms and lower estimates in health registries with International Classification of Diseases codes.

Key words: Rosacea; worldwide epidemiology.

137. HAND ECZEMA – ETHIOPATHOGENIC AND CLINICAL

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Introduction. Hand eczema is one of the most frequent allergic dermatoses, which constitutes 20-30%. It is based on common clinical manifestations, and it is attributed to the same histopathological pattern. It includes several clinical forms, which involve different triggering factors and different ethio-pathogenetic sequences. In this aspect, studying the incidence of triggering factors in correlation with different clinical forms of hand eczema remains an important objective of study.

Aim of the study. Estimating the incidence of the trigger factors that influence the appearance of different forms of hand eczema.

Materials and methods. I have done a retrospectively study that included 68 diagnosed patients, with different types of hand eczema, hospitalized to the IMSP Hospital for Dermatology and Communicable Diseases over two years (2018-2019).

Results. The group of 68 patients included – 51 (75%) men and – 17 (25%) women. In 8 (11.7%) cases the patients could not identify the factor that triggered the eczematous process. Among the triggered factors we can mention the physical factors - 26 (38%), chemical factors - 22 (32%) and biological factors - 12 (18%). From the physical factors (high temperatures, water and mechanical factors) the most frequent registered was the mechanical factor - 9 (34%). From the chemical factors were registered drugs, construction materials, petroleum products, polygraphic materials, detergents, cosmetics products, the most frequently were incriminated building materials - 7 (31%). The biological factors were presented exclusively by bacterial and fungal infections. Under the action of physical factors only irritant contact dermatitis appeared - 19 (27.9%), while the chemical factors were incriminated in both irritant contact dermatitis - 6 (8.8%) and contact allergic dermatitis (eczema) - 10 (14.7%). Bacterial biological factors were responsible for the infection eczema - 19 (27.9%), while the mycotic factors generated dyshidrotic eczema in 6 (8.8%) cases.

Conclusions. The most common forms of the hand eczema remain the irritant and allergic contact dermatitis where the physical and chemical trigger factors are the most important.

Key words: Hand eczema, trigger factors

DEPARTMENT OF ENDOCRINOLOGY

138. GLYCEMIC CONTROL AND DYSLIPIDEMIA IN CHILDREN AND ADOLESCENTS WITH TYPE 1 DIABETES

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Introduction. Dyslipidemias are complex qualitative or quantitative alterations of lipid metabolism. Their prevalence in children and adolescents with type 1 diabetes reaches up to 39%, depending on the glycemic control.

Aim of the study. To evaluate glycemic control in children and adolescents of different ages and its correlation to dyslipidemia.

Materials and methods. The retrospective study included 203 patients aged between 1 and 17, treated in “Institutul Mamei si Copilului” hospital during January - July 2019. Data collected: age, sex, duration of Diabetes mellitus type 1 (DM1), glyated haemoglobin (HbA1c), basal blood glucose, postprandial blood glucose, total cholesterol, β - lipoproteins, triglycerides (TG).

Results. Patients were classified into 4 groups, according to age: younger than 7 years old: 38 patients, between 8 and 11: 65 patients, between 12 and 15: 64 patients, older than 15: 36 patients. The oldest children had the worst control of diabetes: the average value of HbA1c was $10,0 \pm 1,9$ % in group of children older than 15 and $9,5 \pm 1,8$ % in children between 12 and 15 years old. We compared basal and postprandial glycemia from hospitalization to discharge in each age group and found that the best results were obtained in children between 8 and 11 years old, where basal blood glucose decreased by 3,8 mmol/l on average ($p < 0,01$) and postprandial blood glucose decreased by 3,9 mmol/l on average ($p < 0,05$). Even though patients aged 12 to 15 had poor diabetes control, they also obtained good results after treatment: blood glucose decreased by 3,0 mmol/l ($p < 0,05$) and postprandial blood glucose decreased by 2,9 mmol/l ($p < 0,05$). In the other groups, the changes were less significant.

Dyslipidemia was detected in 71 patients (34,9%), including 20 patients with hypercholesterolemia; 10 with hyperbeta lipoproteinemia; 11 with hypertriglyceridemia; 30 with combined hyperlipidemia. We determined that 48 patients (67,6%) with dyslipidemia had a poor glycemic control, 13 patients (18,3%) had a suboptimal glycemic control and 10 (14,1%) had an optimal control. Dyslipidemia was most common in the last 2 groups of children. The value of Pearson correlation coefficient between HbA1c and β -lipoproteins level was +0,33, which means there is a moderate positive correlation between the value of HbA1c and the frequency of dyslipidemia.

Conclusions. Children older than 15 years and children between 12 and 15 years old have the worst control of diabetes. There is an association of dyslipidemia with poor metabolic control. It's recommended to determine the lipid profile in patients with type 1 DM.

Key words: type 1 diabetes mellitus, dyslipidemia, glycemic control

DEPARTMENT OF GASTROENTEROLOGY

139. THE EVOLUTION OF LIVER FIBROSIS IN PATIENTS WITH CHRONIC HEPATITIS C VIRUS (HCV) INFECTION AFTER INTERFERON-FREE THERAPY.

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Introduction. In patients with chronic hepatitis C, the viral infection is a constant trigger of inflammation, which subsequently induces formation of fibrosis (Sangiovanni A, 2006), which lead to portal hypertension and hepatocarcinogenesis (Pungpapong S, 2007). Until recently, liver fibrosis and cirrhosis were regarded as irreversible processes (Bonis PA, 2001), however, several studies have reported that regression of liver fibrosis can be achieved using potent antiviral agents (DAA) in patients with chronic hepatitis C by improving hepatic necroinflammation and alleviating damage.

Aim of the study. This review aims to summarize current researches that assessed the impact of HCV direct-acting antiviral (DAA) therapy on changes in liver fibrosis (stiffness – LS) measured by transient elastography.

Materials and methods. A literature review of the articles published on HINARI and Pubmed databases between 2014 and 2020 years was done. To identify relevant studies on this topic we used the key words: „hepatitis C”, „ direct-acting antiviral”, „sustained virological response”, „hepatic fibrosis”, “and liver stiffness”. We analyzed about 40 different researches and compared the results that they provide.

Results. We compared fibroscan data of different studies that were collected at the baseline (T0) and at the end of interferon-free treatment (EoT) in patients with HCV infection. SVR was reached in about 97.5% cases. On the whole, LS decreases by 15-35% at the EoT (Bachofner JA, 2017, V. Knop, 2016). One year after treatment, LS decreases by an additional 15%, suggestive of fibrosis regression (Laursen, et al., 2019). Factors associated with a reduction in fibrosis as measured were lower BMI, bilirubin, FIB-4, and LS by transient elastography, as well as higher liver fibrosis value at registry enrollment (Ira Jacobson, 2019), SVR was associated significantly with this reduction (Dolmazashvili E, 2017). Failure to achieve improvement in liver stiffness were associated with relapses, low baseline liver stiffness measurement (A. Elsharkawy, 2017), baseline high glucose, low ALT, low platelets, presence of esophageal varices (Persico M, 2018).

Conclusions. In HCV patients with advanced fibrosis, pretreatment LS significantly reduced during DAA therapy, SVR was the only independent factor associated with this regression.

Key words: hepatitis C, direct-acting antiviral, sustained virological response, hepatic fibrosis, liver stiffness

DEPARTMENT OF FORENSIC MEDICINE

140. ESTIMATING THE TIME OF DEATH IN THE FORENSIC MEDICAL PRACTICE

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Introduction. The positive diagnosis of death is an important task in forensic medicine. It can be established by the forensic doctor or any other doctor of another specialty. The pathologist is often asked for an opinion on postmortem interval (PMI) based on the pathological findings. Estimating the time of death is of a great importance for the criminal investigation bodies, in regards to the possibility of justifying a version of actions, to gather evidence that can support or deny the states of action of suspect in a crime.

Aim of the study. Finding the best methods that can provide us with accurate information regarding the estimation of death time.

Materials and methods. Bibliographic sources (Hinari, Goali, Medscape, University Library, Color Atlases).

Results. The time of death can be approximately estimated based on the supravital reaction (mechanical or electrical muscular excitability, pharmacological excitability of the iris muscle); cadaverous changes: early (dehydration, cooling, livor mortis, rigor mortis) and belated changes (putrefaction), destruction by animals or insects/entomology studies (flies); biochemical changes (level of potassium in the vitreous body or CSF). There are a lot of extrinsic (temperature, humidity, environment) and intrinsic (cause of death, weight, comorbidities) factors that influence the process of estimating the postmortem interval and the error ranges for the majority of these approaches are uncomfortably large.

Conclusions. The exact time of death can not be estimated. For a better result it is advised to use more than one method at a time. While none of the changes after death is capable of providing a precise marker of time since death, the most reliable would appear to be related to the cooling of the body after death, using Henssge`s Nomogram (which can be used at the death scene). The more time passes, the difficult it is to determine the PMI. For bodies older than 3 days it is the best to determine the time of death by using the entomology research, using the stages of evolution of the insects.

Key words: forensic medicine, postmortem interval, Henssge`s Nomogram, entomology

DEPARTMENT OF FAMILY MEDICINE

141. FEATURES OF PATIENTS OLDER THAN 65 YEARS WITH PULMONARY TUBERCULOSIS

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Introduction. The distribution of patients with tuberculosis in age groups is very heterogenous worldwide. It reflects the social inequalities, barriers in health care accessibility and the rate of comorbid groups. Individuals older than 65 years are more predisposed for the sickness in countries with low burden of tuberculosis and those younger than 35 years—in high burden countries.

Aim of the study. To study the particularities of patients with pulmonary tuberculosis older than 65 years and to identify the final outcome in mun. Chisinau.

Materials and methods. A retrospective, longitudinal and selective study which included 92 patients diagnosed with tuberculosis during 2018 in Chisinau was performed.

Results. Assessing the gender distribution men were 66 (72%) and women 26 (28%). The average age was 73 years. One half, 43 (46%) were detected by the family doctor through the examination of symptomatic cases and through the active screening - 12 (13%) cases. Pulmonologist detected 15 (16%) investigating the symptomatic cases and 10 (18%) through the radiological screening. Were addressed to the specialized hospital 12 (13%) cases. Associated to tuberculosis were diagnosed in 87 (94%) one or more comorbidities. Distribution by groups depending on the type of case: new cases 64 (70%), cases of relapse 18 (19%), recovered after loss of supervision 6 (6%), after therapeutic failure 4 (5%). Distribution

according to the social economical level identified that 70 (76%) were retired individuals. People with disabilities were 10 (11%). No financial support was established in 12 (13%) cases. Harmful habits were established in 38 (42%) cases with active smoking. Chronic alcohol consumption was identified in 18 (20%) cases. Intravenous drug use in anamnesis was established in 1 (1%) cases. Were in tuberculous contact 12 (13%) cases. Assessing the tuberculosis anamnesis was detected a previous antituberculosis treatment in 28 (30%). The majority 78% were diagnosed with infiltrative form, however severe, extended with bilateral localisation were diagnosed in 33 (36%) cases. Microbiological positive were 25 (27%), however the conventional cultures established mycobacteria in 45 (49%) cases. All patients were treated with first line antituberculosis drugs which conducted to a successful outcome in 70 (75%). Low outcome included death 6 (6%), failure 3 (2%) and lost to follow up of 6 (6%).

Conclusions. People older than 65 years are an age group affected by TB if there are several common risk factors established: male sex, social vulnerable state, harmful habits (active smoking, alcohol consumption) and comorbidities. One third of the group resulted in poor treatment outcome. It can be concluded that a complex approach to patients older than 65 should be done, not only in mun. Chisinau, considering the epidemiological state of tuberculosis in the Republic of Moldova.

Key words: Tuberculosis, comorbidities

DEPARTMENT OF NEUROLOGY

142. YOUNG ADULTS WITH ISCHEMIC STROKE IN THE REPUBLIC OF MOLDOVA'S TERTIARY NEUROLOGY CENTER

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Introduction. Ischemic stroke in young adults is a rising health problem with multiple risk factors and a big socio-economic impact.

Aim of the study. The aim of the study was to characterize the cohort of Moldovan young ischemic stroke patients.

Materials and methods. Was done a retrospective medical records evaluation of 1687 patients with ischemic stroke treated in tertiary neurology center from January 2018 till December 2019. Were identified 59 patients aged 50 and less and included in the study. To all the study patients was analyzed the risk factors profile, clinical presentation, neuroimaging, and comorbidities.

Results. The study cohort consists of 67.9% men and 32.1% women, mean age – 42.95±6.7. In 82.1% was the first-ever stroke and 17.9% - recurrent. The middle cerebral artery territory was affected by 76.8%, mostly in the left hemisphere – 46.4% and posterior territory – 19.6% with brainstem location in 12.5%. The first clinical presentation was motor deficit – 60.7%, speech impairment – 23.2%. NIHSS was 10.03±5.14. Neuroimaging shows: ischemic lesion – 94.6%, concomitant lacunar infarcts/leukoaraiosis – 28.6%, old strokes – 19.6%. Large vessel occlusion was documented in 12.5% (left side – 75%), stenosis – 30.4% (mean 43.5±15.7%)

and vertebral artery hypoplasia – 25%. In 55.4% of patients, the sedimentation rate was elevated and in 26.8% - leukocytosis. Only 41.1% of patients were on anterior treatment and 7.1% had anticoagulant drugs. In 26.8% patient different types of infection were documented prior to stroke onset.

Conclusions. Moldovan cohort of young adults with ischemic stroke presents the same risk factor profile as older adults with the trigger role of infections in the stroke onset.

Key words: stroke, young adults, risk factors

143. THE INFLUENCE OF PSYCHOLOGICAL FACTORS ON THE ABILITY TO EXPERIENCE ORGASM IN WOMEN OF REPRODUCTIVE AGE

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Introduction. Female sexuality is a controversial issue due to its embarrassment, great complexity, and scarcity of scientific research. About 44% of women suffer from sexual dysfunctions and 15-20% have orgasm difficulties (Shifren, 2008). Due to the complexity of the factors that influence the female sexual response, including sexual desire and arousal, emotional intimacy, general and sex-specific anxiety, and distress about the situation, it is hard to establish the etiology of anorgasmia in women. However, it was found that the most important risk factor for female sexual dysfunction is impairment of mental health, especially affective disorders (Rosen, 2009; Pedersen, 2017). Lack of subjective arousal and pleasure are linked to anxiety, whereas depression has negative effects upon orgasmic experience. Often neglected by clinicians, female sexual dysfunction has a significant impact on interpersonal functioning and overall quality of life

Aim of the study. To determine psychological disturbances which can have a significant impact on the ability of women to experience orgasm

Materials and methods. In this study participated 129 women of reproductive age (18 to 47 years), from which a sample of 29 women was selected based on the criteria of being sexually active in the last 4 weeks. The study was based on self-report questionnaires: Symptom Checklist-90 (SCL-90) and the Female Sexual Function Index (FSFI). The selected women were separated in 2 groups: who have orgasm most of the time and with orgasm difficulties, based on the results of FSFI. A comparative analysis was performed and Student T-test was applied in order to confirm the statistical significance of clinical findings.

Results. We have found that women from the group with orgasm disorder had significant ($p < 0.05$) higher values on 3 scales – hostility, obsessive-compulsive and phobic in comparison with those who can experience orgasm. However, there were no statistical differences in the dimensions of anxiety and depression, although in the literature there is evidence that these can limit women's arousal and therefore frequency of orgasm.

Conclusions. It can be concluded that women who have difficulty in experiencing orgasm are more aggressive, have thoughts which they don't have control over and have irrational fears. This leads to difficulty in having sexual fantasies, experiencing relaxation and pleasure. Due to the negative thoughts and fear, they can't express their feelings and can't communicate their sexual needs and preferences with their partner. In addition, they might have a misinterpretation of sensations perceiving them as threatening rather than pleasurable, which will sabotage the

ability to reach peak pleasure or orgasm (Bradford, 2006). However, further research is required in order to find other factors that can also affect female orgasm.

Key words: Female sexual dysfunction, anorgasmia, depression, anxiety

144. FRONTAL LOBE ORIGIN IN MYOCLONIC SEIZURES: A HIGH-DENSITY EEG STUDY

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Scientific adviser: Groppa Stanislav, Academician of the Academy of Sciences of the Republic of Moldova, MD, PhD, Professor, Neurology Department, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Introduction. Myoclonic seizures are classified as generalized seizures, engaging bilaterally distributed networks and displaying primary generalized discharges on conventional electroencephalography (EEG). However, emerging data point towards a presumed focal origin of these discharges.

Aim of the study. In the current study, we aimed to determine the cortical sources of the interictal generalized discharges in patients with myoclonic seizures by employing high-density EEG (HD-EEG).

Materials and methods. For this study, 40 patients (mean age \pm standard deviation: 25 ± 7 years; 14 males) with myoclonic seizures were included. All participants were scanned with a 3T MRI machine and 256-channel EEG recording. The EEG electrodes were placed according to the international 10/5 system and included in a special net with a 20–25 mm interelectrode distance. For spatio-temporal source reconstruction, LORETA (low resolution brain electromagnetic tomography) solution was applied to first spikes of the interictal generalized discharges.

Results. In all cases the MRI and neurological exams were normal. Overall, 820 interictal generalized discharges were registered. In all 40 patients, the electric sources of interictal generalized discharges were detected in the frontal lobe. In 17 (42%) patients the origin of discharges was in the middle frontal gyrus (Brodmann Area (BA)-9 in 7 patients, BA-10 in 3 patients, BA-6 in 4 patients and BA-8 in 3 patients). In 13 (33%) patients the origin was identified in the superior frontal gyrus (BA-6 in 9 patients, BA-10 in 3 patients and BA-8 in 1 patient). In 10 (25%) patients the source was localized in the inferior frontal gyrus (BA-11 orbital part in 8 patients and BA-46 in 2 patients).

Conclusions. The results of HD-EEG suggest that myoclonic seizures are not truly generalized seizures in the sense of global activation of the cortex, but rather restricted networks of cortex are involved in the discharges and primarily recruit the frontal lobe networks. This data cannot be visualized with conventional EEG.

Key words: myoclonic seizures, high-density electroencephalography.

145. SLEEP DISTURBANCES IN PARKINSON'S DISEASE

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Introduction. Sleep disorders are among one of the earliest and most common non-motor symptoms of Parkinson's disease (PD). The nature of sleep is considered to be the major cause of lack of satisfaction of life quality in patients with Parkinson's disease. Despite well-known sleep disorders in PD, sleep has been a rare and mostly neglected topic in PD research. The prevalence of sleep disturbances in patients with PD, range from 65% up to 95%, which point that sleep disorders in PD patients are not rare and require increased awareness from clinician and researchers.

Aim of the study. Evaluation of sleep disorders in PD patients and the influence of PD stage, medications, pain, anxiety and depression on PD patients sleep quality.

Materials and methods. Forty PD patients were included in the study. Clinical demographic data were recorded. Disease stage was evaluated by the Hoehn and Yahr rating scale, sleep quality by Pittsburgh Sleep Quality Index (PSQI), sleep disturbances by the Parkinson's disease sleep scale (PDSS-2 scale), excessive daytime sleepiness was identified by the Epworth Sleepiness Scale (ESS). And depressive and anxiety symptoms by the Hospital Anxiety and Depression Scale (HADS). Control group of forty participants age healthy matched also completed the PDSS-2 scale.

Results. 70% of the patients have PSQI score more than 5 which indicate poor sleep quality. The result show that PD patients with reported pain have mean PSQI score 9.52 in comparison to PD patients without pain with a mean score 8.24. The mean PSQI score for those who got HADS anxiety subscale more than 10 was 8.79 where those who got less than 10 have a mean PSQI mean score 8.89. For patients who got in HADS depression subscale a score more than 10, the mean PSQI score was 9.94 and for those who got a score less than 10 have PSQI score 8.464. The mean PDSS-2 score for PD patients was 95.43 ± 14.57 and for matched age healthy control group was 123 ± 16.25 . 32.5 of the PD patients have EDS. The mean score for PDSS tremor dominant PD patients was 92.46 where the mean score for rigidity dominant was 98.66. The mean ESS score for tremor dominant PD patients was 6.77 and for those with rigidity dominant the mean score was 6.39. There is no significant difference in PDSS mean score between the stage 1 and 2 but if it compared to stages 3,4 and 5 there is significant difference.

Conclusions. PD patients have poorer sleep quality than matched age healthy control group. Unlike medication type and anxiety there was significant correlation with the disease stage, pain, depression and tremor dominant patients. There was a correlation with ESD and the disease stage.

Key words: Parkinson's disease, sleep disturbances.

146. MUSIC THERAPY: THE EFFECTS OF THE ALTERED STATE OF CONSCIOUSNESS (MUSICAL TRANCE) IN PAIN ATTENUATION AND DISAPPEARANCE DURING A SYMPHONIC CONCERT

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Introduction. The impact of music on the brain is well-known and widely researched, as well as the use of different music therapy strategies in various medical situations (the treatment of anxiety, depression, stress, neurovegetative disorders, etc.).

Aim of the study. Investigating the analgesic effects on listeners trained according to certain rules of music perception in order to amplify, as much as possible, its therapeutic effects in a classical music concert.

Materials and methods. The analysis of questionnaires applied immediately after listening to classical music (F. Chopin, concerts Nr. 1 and 2) in the project "Music Therapy" VI edition, to patients suffering from pain (77 subjects) and comparing them with the tendency established in previous concerts.

Results. Of the total patients with pain at the beginning of the show, the disappearance or attenuation of pain was recorded at 84%, which is within the scope of the average tendency of 73.6 (established over 6 concerts, 1162 questionnaires). Factors such as female gender, younger age, no music studies, no psychotropic drugs prior to the concert, presence of stress - all of these can play a favorable role in the disappearance of pain while listening to classical music. The value of the feelings of happiness, joy, faith, and hope in group A (pain diminished or disappeared) was statistically significant ($p < 0.05 - 0.005$) higher than those in group B (pain persisted). The only exception was the state of boredom, more pronounced in group B ($p < 0.05$). Two affective phenomena (internal calm and the love) and four cognitive phenomena (the feeling of having no body, feeling of being connected to a higher force, pleasant bodily sensations, the impression that the sounds came from far away) - all these were statistically conclusively more pronounced in the group in which the pain disappeared as opposed to the group in which the pain persisted.

Conclusions. (1) The music can have a therapeutic effect only when the patient is thoroughly prepared to perceive it in compliance with certain rules of entering into an altered state of consciousness (musical trance). (2) The patients whose pain disappeared after listening to the music, as the results show, were significantly more sensitive to the effects of the music as opposed to the patients whose pain persisted after the concert ended. Thus, the phenomenon of the musical trance seems to be in fact the essential mechanism that induced the analgesic effects in group A, i.e. in patients for which the pain disappeared.

Key words: pain, altered state of consciousness, musical trance, music therapy

147. ELABORATION OF A NEUROLOGICAL DIAGNOSTIC SCREENING IN THE ASSESSMENT OF PSYCHOLOGICAL DISORDERS (PAIN INTENSITY, AFFECTIVE AND PERSONALITY DISORDERS) BASED ON THE DEGREE OF EXPRESSION OF PATELLAR REFLEXES

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Introduction. The evaluation of tendon reflexes is one of the main components of the clinical examination of the nervous system. The neurologic examination is an important clinical bridge between mind and brain. Fundamentally, the tendon reflex response demonstrates a balance of signals between the cerebral cortex and the spinal cord. Although the history of reflexes shows that they were an indicator of organic pathology, in this study we intend to demonstrate that personality disorders, affective disorders (anxiety, depression) and the presence of pain syndrome induce varying degrees of expression of patellar reflexes.

Aim of the study. Evaluation of the degree of expression of patellar reflexes and their correlation with pain intensity, affective and personality disorders in order to develop a screening algorithm for neurological examination.

Materials and methods. Were evaluated 210 patients, who suffered from headaches, affective disorders and personality disorders. We identified 3 levels of the degree of pronunciation of patellar reflexes: reflexes diminished or absent, reflexes normal or augmented and reflexes very pronounced ("convulsive"). Patients completed the following questionnaires: SCL-90, Anxiety Spielberger, BECK Depression Questionnaire, Nijmegen, Vegetative Profile, PID (Personality Inventory Disorders), Somatoform disorders (which also included pain phenomenon).

Results. The study included 210 patients, of which 54 men (25,7%) and 156 women (74,3%), 18-50 years old, with an average of 31,32 years. They were grouped according to the degree of pronunciation of patellar reflexes in 3 groups. The first group included 60 patients with diminished or absent reflexes (28,6% of the group), of which 28 men and 32 women. The second group included 46 patients (21,9%) with normal or augmented reflexes, of which 12 men and 34 women. The third group included 104 patients (49,5%) with very pronounced ("convulsive") reflexes, of which 14 men and 90 women. Patients in the study group were present with pain syndrome, thus 110 patients with migraine (52,4%), 66 patients with tension-type headache (31,4%) and 34 patients (16,2%) did not report pain syndrome.

Conclusions. Patients with personality disorders have the degree of pronation of patellar reflexes diminished until absent, and when applying the Jendrassik maneuver, this test amplifies the reflex response. While patients with affective disorders and pain syndrome present hyperreflexia. Thus, patellar reflexes can serve as an effective screening, with a degree of probability in the diagnosis of functional disorders of patients.

Key words: patellar reflex, affective disorders, personality disorders, pain syndrome, screening algorithm.

148. THE INFLUENCE OF PSYCHOGENIC PAIN DISORDER

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Introduction. Psychogenic pain is a term used to describe pain attributed to psychological elements. These elements may include certain feelings, anxieties or affections that lead to the worsening of pain. Patients with psychogenic pain usually have a history of unresolved problems that throws in an unconscious way in symptoms of pain. Usually pain is recognized to be physical, but the psychological aspect of this condition should be in the center of the overall management plan. It is proved that stressful factors may be associated with the changes that appear in the nervous system. Though, there is a combination of elements and facts that contribute together to the pathology of psychogenic pain. This type of pain can have many different psychological aspects that can exacerbate or trigger the pain: anxieties, emotions, beliefs or depression.

Aim of the study. This study focuses on the psychological difficulties causing psychogenic pain. The objective is to analyse the level of comorbidity between psychological difficulties and the psychogenic pain.

Materials and methods. Place of study: Moldova's Institute of Neurology and Neurosurgery
Period of study: September 2019 - february 2020 (6months). Inclusion Category: Patients who referred by doctors for pains and behaviour problems. Exclusion Category: Patients who complain pains for more than two months. Sample Size: Patients who complains pain for more than 6 months. Study Design: Cross sectional study.

Results. The study showed statistically that there are significant differences in all areas of psychological difficulties, statistically not significant in somatization of all the patients.

Conclusions. The study showed that the pshychological difficulties are the most important stressors elements in triggering psychogenic pain among the patients.

Key words: Psychogenic pain, psychological difficulties, nervous system.

149. THE PARTICULARITIES OF EVOLUTION OF ISCHEMIC STROKE IN PATIENTS WITH CAROTID ARTERY OCCLUSION (REVIEW)

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Introduction. Worldwide, stroke is the third leading cause of death and the most common cause of disability. According to WHO, 20 million people are affected annually and mortality rate is 5.5 million people. Ischemic stroke accounts for 87% of all strokes. Ischemic stroke in 15-20% is caused by atherosclerosis of large extracranial arteries and in 75% is caused by the occlusion of the cervical internal carotid artery and has an incidence rate of approximately 6 per 100000 people.

Aim of the study. To analyze the bibliographic data with reference to the epidemiology, the causes, the risk factors, the clinical presentation and the evolution of the ischemic stroke determined by the occlusion of the carotid artery.

Materials and methods. Were analyzed 40 bibliographic sources from the Hinari, PubMed, Medline database.

Results. Atherosclerosis is the leading cause of carotid artery occlusion. Since the 1950s it has been shown that the predominant localization of atherosclerosis is the origin of cervical internal carotid artery. In young patients, the occlusion is often caused by carotid artery dissection. Carotid artery atherosclerosis is more common in men and the prevalence increases with age. The non-modifiable risk factors are: age, gender, genetic predisposition, and modifiable risk factors are: high blood pressure, smocking, hypercholesterolemia, diabetes. Atherothrombosis with thromboembolism is considered the major pathological determinant of ischemic stroke. The atheroma progressively deteriorates, due to the growth of atherosclerotic plaque and the formation of thrombi above the plaque. Eventually, the thrombi migrate, occluding the distal cerebral vessels. Atheromatous or cholesterol embolism is less common. Thrombosis in situ causes occlusion by adhesion, activation and aggregation of platelets. Clinically we determine the disorder of consciousness; homonymous hemianopia; contralateral motor deficit-hemiparesis, hemiplegia; disorders of language- motor, sensitive aphasia and dysarthria. We can determine the carotid occlusion by Doppler examination. Cerebral angiography is the gold standard for the determination of atherosclerotic stenosis, and presents risks of arterial injury, embolism. Treatment options are drugs, endarterectomy and carotid stenting.

Conclusions. Carotid occlusion is responsible for an imposing number of ischemic strokes in both the elderly, predominantly caused by atherosclerosis and in young people, being caused by carotid dissection, and the basic risk factors are male sex, high blood pressure, smocking and dyslipidemia. It can be prevented by managing risk factors.

Key words: internal carotid artery, occlusion, ischemic stroke

150. POSTURAL DISORDERS IN PARKINSON'S DISEASE AND THEIR RESPONSE TO INTERVENTIONS

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Introduction. Postural disorders are typical in Parkinson's disease (PD) and are increasing with progression of the disease. Although many studies concentrate on posture and gait, postural alignment is seldom studied.

Aim of the study. The aim of this study was to investigate the reliability of a standardized postural rating tool and to examine the immediate and long-term effects of medication and deep brain stimulation (DBS) in the subthalamic nucleus on postural alignment in PD.

Materials and methods. Two independent raters assessed three angles: total camptocormia (TCC), upper camptocormia (UCC) and Pisa angle of 192 PD patients and 78 HC with the free downloadable NeuroPostureApp. The photos of PD patients were made before and after the DBS surgery. The patients were tested with and without medication pre-surgical and retested

post-surgical (6–24 months) in all treatment combinations of medication and DBS regarding the on and off conditions. Three subgroups were defined according to normative values of healthy controls and according to clinical criteria: patients with normal posture, with stooped posture, and with postural disorders.

Results. For the interrater reliability, intra-class coefficients (ICCs) were 0.95 (95% CI: 0.94-0.95), 0.83 (95% CI: 0.80-0.84) and 0.71 (95% CI: 0.67-0.74) for the TCC angle, UCC angle and Pisa angle assessment, respectively. This indicates excellent interrater reliability for the TCC angle, good reliability for the UCC angle and moderate reliability for the Pisa angle assessment. In 82 % of patients a stooped posture was observed with respect to the TCC angle and in 54 % with respect to the UCC angle, 62% had an abnormal Pisa angle. Camptocormia was diagnosed in ~7% and a Pisa syndrome in 1% of the patients. Medication and DBS both significantly improved postural alignment in the entire cohort.

Conclusions. The non-commercial NeuroPosturApp© assessed is a reliable and easy to handle tool for measuring postural alignment in healthy subjects and people with PD. The App proved to be capable of describing the total and upper camptocormia angles, and the Pisa angle. Both medication and stimulation improved postural alignment in anteroposterior and mediolateral direction in PD.

Key words: Parkinson's disease, deep brain stimulation, posture, camptocormia, Pisa

DEPARTMENT OF REHABILITATION AND PHYSICAL THERAPY

151. ACUPOINT THREAD IMBEDDING THERAPY IN TREATMENT OF SCIATIC NEUROPATHY

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Introduction. This literature review aims to evaluate the efficacy and safety of acupoint thread embedding therapy in sciatic nerve neuropathy.

Aim of the study. This literature review aims to evaluate the efficacy and safety of acupoint thread embedding therapy in sciatic nerve neuropathy.

Materials and methods. In order to achieve our main goal articles containing the key words were selected from PubMed, Hinari, Scopus, and ScienceDirect databases. For advanced selection of literature sources, the following filters were applied: articles published after January 2002 and just articles in English. Original research articles were selected (preclinical, clinical and experimental studies). The information and main aspects of acupoint thread embedding therapy in sciatic neuropathy were systematized.

Results. Sciatic neuropathy is one of the most common neuropathies of the lower extremities and a common cause of foot drop. Sciatic nerve neuropathy can be caused by traumatic, compression, ischemic, neoplastic or idiopathic etiology. Symptoms of sciatic neuropathy can be very diverse. But all signs are characterized by acute pain along the sciatic nerve and dysfunction of the lower limbs. Acupoint thread embedding therapy is a type of acupuncture and alternative treatment that inserts medical threads into skin, subcutaneous tissue or muscles at specific points. The absorbable surgical thread, a foreign protein, can induce allergic reactions and the combined effects of proteolytic enzymes and macrophage action against the

absorbable surgical thread may strengthen and extend the acupoint stimulation for 15–20 days as a consequence of the mild irritation in subcutaneous tissue. The researchers note that acupuncture successfully increases “acetylcholinesterase expression in spinal cord tissue after peripheral nerve injury”. As a result, this may be an important mechanism by which it promotes the healing of peripheral nerves. It also could regulate multiple molecules and signaling pathways that lead to excitotoxicity, oxidative stress, inflammation, neurons death and survival and also promote neurogenesis, angiogenesis, and neuroplasticity after ischemic damage. Acupuncture treatment activates endogenous analgesic mechanisms, causing the secretion of endorphin, causing a quick effective analgesic effect.

Conclusions. Acupoint embedding therapy is an invasive treatment which can prolonged point stimulation, reduces the frequencies of pain and psychological fear of patients and visits to the doctors. It seems to be a promising method of sciatic nerve neuropathy treatment.

Key words: sciatic nerve neuropathy, acupuncture, acupoint embedding therapy.

152. MULTIMORBIDITY/ COMORBIDITY AND POLYPHARMACY IN STROKE REHABILITATION.

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Introduction. Stroke is one the top causes of morbidity and disability in high and low-income countries. Specialized treatment and rehabilitation services contributed to a high level of functioning in stroke patients for a longer period. At the same time, advancing in age is related to a higher number of chronic conditions that have a harmful effect on patient quality of life. One of the most difficult issues for clinicians is to adjust pharmacological treatment for patient adherence for medication.

Aim of the study. To analyze the incidence and characteristics of comorbidities/multimorbidity and polypharmacy for patients enrolled in stroke rehabilitation.

Materials and methods. A number of 155 medical records of patients with stroke admitted to the department of Neurological Rehabilitation of the Institute of Neurology and Neurosurgery, Diomid Gherman from Republic of Moldova were analyzed.

Results. The study examined the medical records of the patient enrolled in the stroke rehabilitation program according to ICD 10 coding system. In the studied population, 75.5 % (117) of patients suffered an ischemic stroke and 24.5 % (38) a hemorrhagic stroke. The average age is 63, with the range of 34 to 83 years. The most frequent comorbid conditions of patients was hemiplegia - 87.7%(136), hypertension -85.8%(133), followed by atrial fibrillation 22.5%(35%), diabetes -17.41%(27), obesity -10.9%(17).Most of the patients have 5-6 (53.5%) additional morbidities, average number of morbidities are 5.56. Patients who use a 4 drugs represented 14.1%(22), 5 drugs -16.1%(25),6 drugs -23.2%(36),7 drugs -23.8%(37),8 drugs -10.3%(16),9 drugs -10.3%(16),10 drugs -6.4%(3) - the average number of prescribed each patients receives 6 medications.

Conclusions. Multimorbidity and polypharmacy are common in stroke rehabilitation and have a negative impact on patient. Future research of comorbidity structure and combination of specific drugs would be useful for, medical staff from stroke rehabilitation services.

Key words: stroke rehabilitation, comorbidity, multimorbidity, polypharmacy.

DEPARTMENT OF OTORHINOLARYNGOLOGY

153. CONTACT VIDEOENDOSCOPY IN THE DIAGNOSIS OF BENIGN LARYNGEAL PATHOLOGY

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Scientific adviser: Vasile Cabac, MD, PhD, Associate Professor, Department of Otorhinolaryngology, *Nicolae Testemitsanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Laryngeal stroboscopy: this examination is a specialized viewing of vocal fold vibration. Laryngeal stroboscopy involves controlled high-speed flashes of light timed to the frequency of the patient's voice. Images acquired during these flashes provide a slow motion-like view of vocal fold vibration during sound production.

Aim of the study. To study it innovative approach to rigid endoscopy of the larynx.

Results. For contact videoendoscopy, we start with a microcolpohysteroscope, 24 cm long, 4 mm in diameter, with an angle of 30°. When in contact with the tissues, it allows for magnifications of 60° and 150°. Presently, a prototype developed in collaboration with Karl Storz is being used. Contact endoscopy is performed after the assessment with the microscope and the telescopes. An autostatic device fixed to the operating table improves the manipulation of the contact endoscope, allowing for better control of movement along the superior surface of the vocal cord. Video and photographic documentation are obtained with the same equipment used in REMS procedure: With the contact endoscope close to the mucosal surface, allowing a panoramic view, the superior surface of the vocal cord is cleaned using Spongostan soaked in saline serum. After careful suction of the area, the vocal cords are stained with 1% methylene blue. The mucosa is gently touched with the tip of the contact endoscope, and the stained cells of the superficial layers of the epithelium become visible. The color lasts for approximately 4 to 5 minutes and gradually disappear, so staining is repeated periodically if longer assessment of the epithelium is needed. Later, contact videoendoscopic images are compared with histologic sections of the biopsied or excised lesions. Video recording allows for study and discussion of the images obtained by this in vivo and in situ study of the tissues. Laryngeal stroboscopy:

Conclusions. These technologies provide valuable practitioner and patient information. It allows recording images, video or other media formats, permitting examiners to review the images of the voice box frame by frame, capture still and close-up images, and re-review images with members of the voice care team.

Key words: videoendoscopy, vocal fold.

154. EMPTY NOSE SYNDROME - ENTITY AND KNOWLEDGES

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Co-authors: Dodon Lucia, Brunchi Liliana

Scientific adviser: Vasile Cabac, MD, PhD, Associate Professor, Department of Otorhinolaryngology, *Nicolae Testemitsanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Empty Nose Syndrome (ENS) is a complication of nasal surgery, an iatrogenic disease, where the nasal turbinates (especially the inferior turbinates) was damaged as a result of turbinate surgery which destroys the normal nasal physiology.

Aim of the study. The knowledge and information about this syndrome is necessary to pay special attention during nose surgery and awareness of the diagnosis of ENS for its prevention.

Materials and methods. ENS symptomatology was evaluated using SNOT 20 or 22 (Sino-Nasal Outcome Test). Then SNOT-25 was used to evaluate symptomatology of ENS. New ENS6Q (Empty Nose Syndrome 6 Question-naire) was also used for evaluation. ENSIA proposed a modified fifty-five SNOT test (55) to evaluate ENS symptoms. This proposed SNOT-55 is based on SNOT-25 by adding thirty new articles.

Results. Empty nose syndrome affects a small number of the population. The incidence is not known, as there is no specific research in this area. The absence of incidence studies is directly related to the lack of awareness of ENS among health professionals. This resulted in the absence of diagnostic criteria and the omission of an ENS diagnosis in the patient records. ENS appears as a result of turbine surgery and may occur within a few months. Every turbinate procedure can cause ENS if it performed too aggressively. Some turbine interventions increase the probability by ENS, for example partial or total resection of the lower nasal turbinates or cauterization of the mucosal surface. At the moment, ENS can be diagnosed in the clinical setting and the diagnosis is able to be further supported by diagnostic tools available outside the clinical setting. The conservative management of the ENS is based on irrigation and hydration of the nose to maintain the remaining mucosa and should be performed to extend as best as possible the life of the patient. Permanent nose care is burdensome and time consuming.

Conclusions. The quality of life is significantly reduced in patients with ENS. ENS has an impact on employment, physical health, social and financial aspects of the patient's life. While nasal reconstruction operations and treatments with regenerative drugs can lead to symptom improvement, it is important to remember that turbine tissue cannot be replaced or recovered and there is no cure for ENS.

Key words: Empty Nose Syndrome (ENS), nasal surgery, nasal turbinates

DEPARTMENT OF PNEUMOPHTISIOLOGY

155. FEATURES OF PULMONARY LIMITED TUBERCULOSIS IN ACTUAL EPIDEMIOLOGICAL CONTEXT

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Introduction. The limited forms of pulmonary TB are the clinical radiological forms that affect less than 3 pulmonary segments and these are: nodular pulmonary TB and the limited forms of infiltrative pulmonary TB - broncho lobular infiltrate, round and oval infiltrate.

Aim of the study. To assess the clinical and outcome features of pulmonary limited TB.

Materials and methods. A retrospective, longitudinal, selective study, which included 48 cases of pulmonary limited TB hospitalized in the Municipal Clinical Hospital of Phthisiopneumology during 2017.

Results. Limited forms of pulmonary TB are more frequently diagnosed among females 30 (62%) vs males 18 (38%), young people, aged younger 45 years old 32 (67%) vs 16 (33%) elder 45 years, and patients with urban residence 22 (46%) compared with rural ones 25 (53%).

The role of the social risk factors was diminished by low life conditions in 28(58%) patients. Active smoking was identified in 26 (54%), heavy alcohol consumption was established in 8 (17%). The most of the patients 14 (29%) were detected by passive way, of which 12 (25%) cases were symptomatic. Screening of the high risk groups allowed the detection of 10 (21%) cases performed by the general practitioner and of 4 (8%) by the pulmonologist. All cases have never been treated for TB previously. Microbiological investigation revealed acid-fast-positive cases in 4 (8%) and GeneXpert in 5 (10%) cases. Epidemiological risk factors, such as TB contact and the membership of an infectious clusters were established in 8 (17%) and, accordingly, in 4 (8%) cases. The clinical-radiological diagnosis of pulmonary infiltrative was established in most cases 32(67%), with predominant localization in the upper segments S1 and S2 in 27 (56%) cases. All patients were treated using the first anti-TB drugs. Successfully treated were 40 (92%) and 4 (8%) were lost to follow-up due to improvement of the general state and lack of desire to complete the treatment.

Conclusions. Most patients with pulmonary TB with limited forms encountered the social vulnerability. However, they timely contacted healthcare services, especially a general practitioner. Limited forms were localised predominantly in the upper segments, had a low indicator of microbiological positive results. Early detection of limited forms of TB has improved the outcome of the disease and can serve as a good example of an efficient case-management.

Key words: limited tuberculosis (TB), screening, outcome.

DEPARTMENT OF PNEUMOLOGY AND ALLERGOLOGY

156. EXTRAPULMONARY MANIFESTATIONS IN SARCOIDOSIS PATIENTS

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Introduction. Sarcoidosis is a systemic granulomatous disorder of unknown cause that predominantly affects the lungs, more commonly seen in young adults. Considering the systemic character of the disease and that a great proportion of patients with sarcoidosis don't present any symptoms, it is important to actively screen for other organ involvement

Aim of the study. To identify the rate of extrapulmonary manifestations in patients with pulmonary sarcoidosis.

Materials and methods. We have analyzed 41 consecutive sarcoidosis patients admitted to the Institute of Pthisiopneumology Hospital, Chisinau, Republic of Moldova within 2017-2019 years.

Results. In our study group the mean age was 54.5 ± 6.3 years, most of them were women (27 (68.8%)), predominantly non-smokers (39 (78%)). We found extrapulmonary manifestations in more than a half of patients (25 (60.9%)). 11 out of 25 (44%) had 2 extrapulmonary manifestations. The most frequent extrapulmonary manifestation was skin lesions, found in 13 (31.7%) cases, joints involvement manifested by arthralgia and joint pain has been registered in 7 (17%) cases. Other manifestations were: eye lesions –found in 4 (9.7%) patients, peripheral lymph nodes – 4 (9.7%) individuals, liver involvement manifested as hepatomegaly – in 2 (4.8%) cases, 3 (7.3%) patients had hypercalciuria, 3 (7.3%) patients had spleen enlargement

and heart involvement – 1 (2.4%) patient. Although in our cohort all the patients had lung involvement, only 18 (41%) of them needed corticosteroid treatment for pulmonary lesions. Detecting other organs affected by sarcoidosis imposed corticosteroid treatment for other 11 (26.8%) patients

Conclusions. Extrapulmonary lesions in sarcoidosis in our study group was a common finding, seen in more than a half of patients with pulmonary sarcoidosis. The most frequent extrapulmonary manifestation was the skin lesions seen in about 1/3 of patients. Recognizing extrapulmonary organs affected by sarcoidosis, indicating signs of organ damage, changed the management plan in almost a quarter of patients.

Key words: sarcoidosis, prevalence, extrapulmonary

157. THE IMPACT OF COMORBIDITIES ON THE OBSTRUCTIVE SLEEP APNEA

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Scientific adviser: Alexandru Corlateanu, MD, PhD, Associate Professor, Department of Pneumology and Allergology, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova

Introduction. Obstructive sleep apnoea (OSA) is highly prevalent and there is considerable evidence supporting an independent association with a wide range of co-morbidities including cardiovascular, endocrine and metabolic, neuropsychiatric, pulmonary, and renal.

Aim of the study. The objective of this study is to assess the prevalence of major comorbidities associated with obstructive sleep apnea (OSA) and to examine the predictive role of Charlson comorbidity index (CCI) on mortality of patients with OSA associated with comorbidities.

Materials and methods. This is a cross-sectional study of 67 patients diagnosed with OSA based on anthropometric data, cardiorespiratory polygraphy and AHI. Inclusion criteria were patients with diagnosis of OSA, who were aged 18 and above and had comorbidities. We assess patients with comorbidities through Charlson index adapted to International Classification of Disease (ICD-10) codes. Charlson Comorbidity Index (CCI) (Charlson et al., 1987) quantifies an individual's burden of disease and corresponding 1-year mortality risk. Each comorbidity category has an associated weight (from 1 to 6), based on the adjusted risk of mortality or resource use, and the sum of all the weights results in a single comorbidity score for a patient. A score of zero indicates that no comorbidities were found. The higher the score, the more likely the predicted outcome will result in mortality or higher resource use.

Results. We evaluated 67 patients with OSA (51 men and 16 women) with a mean age of 53.9 years (range 25–76 years). The prevalence of comorbidities were: hypertension (91%), obesity (85%), congestive heart failure (65%), pulmonary hypertension (26%), diabetes mellitus (25%), coronary heart disease (22%), etc. Based on the Charlson index of comorbidity the weighted index of comorbidity were: 0 for 6 patients, 1 for 17 patients, 2 for 13 patients, 3 for 13 patients, 4 for 11 patients, 5 for 5 patients and 6 for 2 patients. Combined condition and age-related score were: 0 for 2 patients, 1 for 8 patients, 2 for 10 patients, 3 for 12 patients, 4 for 9 patients, 5 for 8 patients, 6 for 10 patients, 7 for 1 patient and 8 for 1 patient. Patients with combined condition and age related score of 0 (2) estimated 10 year survival was 98 %, 1 (8) was 96%, 2 (10) was 90 %, 3 (12) was 77 %, 4 (9) was 53 %, 5 (9) was 21 %, 6 was 2 %, 7 was 0 %, 8 was 0 %.

Conclusions. Our study revealed that exists a strength association between 10 year survival rate and other two factors: age related score and weighted index of comorbidity. The cardiovascular diseases are the most predominant comorbidities at OSA patients. The patients with higher CCI scores had higher risk of mortality. The impact of comorbidities on the obstructive sleep apnea is significant.

Key words: Obstructive sleep apnea (OSA), Comorbidity, Charlson index of comorbidity (CCI).

158. DISTINCTIVE FEATURES OF THE PULMONARY FUNCTIONAL STATUS IN PATIENTS WITH INTERSTITIAL LUNG DISEASE

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Introduction. Interstitial lung diseases (ILD) are a group of disorders that are generally thought to share a common pattern of physiologic abnormality characterized by a restrictive ventilatory defect and reduced diffusing capacity (DLCO).

Aim of the study. To find distinctive features of the pulmonary function tests results in different types of ILD.

Materials and methods. We have analyzed the data collected from 40 consecutive patients admitted to the Institute of Pthisiopneumology, Chisinau, Republic of Moldova, during January 2019 – February 2020. We have included patients with ILD that are different from a morphological and pathogenetical point of view and distributed the patients as follows: Sarcoidosis patients – 10 cases, Idiopathic pulmonary fibrosis (IPF) patients – 8 cases, Nonspecific Idiopathic Interstitial pneumonia (NSIP) patients – 7 patients, Hypersensitivity pneumonitis (HP) patients – 9 subjects and 6 Histiocytosis (Hx) cases. All patients have been evaluated by pulmonary function tests, 6MWT, SaO₂, MRC scale for dyspnea, etc.

Results. The mean age was 58.95 ± 14.1 years, having the oldest patients (mean 69.7 ± 8.3 years) in the IPF subgroup, and the youngest in the Hx group (mean 38.3 ± 15.6 years), $p < 0.001$. The majority of patients were women (55%), and non-smoker patients (75%). Overall, the sarcoidosis and HP patients were 100% non-smokers, while all Hx patients were ever-smokers, $p < 0.001$. The MRC dyspnea score median was 3 [2;3]. When compared by subgroups, the degree of dyspnea in sarcoidosis and in Hx patients was similar ($p > 0.05$). Moreover, IPF patients expressed significantly more dyspnea when compared to Sarcoidosis ($p = 0.01$), or the Hx subgroup ($p = 0.025$). Similarly, HP patients complained of more severe dyspnea when compared to sarcoidosis patients ($p = 0.029$). In terms of pulmonary function tests we found normal mean FEV1 and FVC values (80.7 ± 21.7 and 78.4 ± 21.5 respectively), a slightly increased mean RV (127.5 ± 42.1), a mildly decreased mean TLC (88.8 ± 22.3) and a moderately decreased DLCO (52.6 ± 21.5). Analyzing PFT parameters within the subgroups we found a predominant restrictive pattern, when defined as FEV1/FVC above 80%, in more than 70% of patients from all the subgroups. But when we applied the bodyplethismographic parameters, we have found that an air-trapping pattern, defined as an elevated RV combined with a normal TLC was identified in about 40% cases of patients with Hx, HP and sarcoidosis.

Conclusions. PFT can help identifying individual features of different types of ILD being able to show even obstructive changes in a group of diseases thought to be strictly restrictive.

Key words: interstitial lung disease, functional status

159. MULTIDIMENSIONAL INDEXES AND PHENOTYPES IN THE EVALUATION OF THE RISK OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE EXACERBATION

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Introduction. COPD is a considerable element in worldwide chronic morbidity and mortality and invariably leads to a deterioration in the quality of life and death from it and its complications. Multiple studies had shown that exacerbations must be considered in evaluation and management of patients with COPD. Each exacerbation significantly damages quality of life and worsens the prognosis, due to association with a lung function impairment, so it also can serve as an independent prognostic factor. The task of a practitioner is to identify patients at increased risk for exacerbation, which still remains a challenge.

Aim of the study. Comparative assessment of prognostic value of different approaches in COPD exacerbations: GOLD ABCD classification, multidimensional indices and phenotypes.

Materials and methods. In the study were included 433 patients, hospitalized during the period of 2012-2016. The phenotypes and the following COPD classifications were used in order to assess spirometric data (FEV1 (forced expiratory volume in 1 second), FVC (forced vital capacity), FEV1/FVC) and e-BODE (exacerbation, body-mass index, airflow obstruction, dyspnoea and exercise): GOLD (The Global Initiative for Chronic Obstructive Lung Disease) 2001, GOLD ABCD 2011 and GOLD ABCD 2017.

Results. 352 (81%) men and 81 (19%) women with mean age $62,7 \pm 9,8$ years participated in research. e-BODE index and phenotypic classification showed a high correlation with exacerbation frequency (e-BODE AUC 0.908 and phenotypic classification AUC 0.995) whereas GOLD classifications underestimated the risk (GOLD 2001 AUC (area under the curve) - 0.623, GOLD ABCD AUC - 0.546 and GOLD ABCD 2017 AUC - 0.545).

Conclusions. COPD diagnosis and management needs a personalized medicine strategy including assessment and prevention of future exacerbations.

Key words: chronic obstructive pulmonary disease, exacerbation, e-BODE, phenotype, GOLD

DEPARTMENT OF PSYCHIATRY, NARCOLOGY AND MEDICAL PSYCHOLOGY

160. MENTAL DISORDERS IN BRAIN TUMORS

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Introduction. Brain tumors are clinically characterized by cerebral organic, focal symptoms, which are manifestations of local pathology. There is a definite connection between the psychotic state and the localization of tumors. Mental disorders can occur in the postoperative period. The prognosis of mental disorders in tumors depends on the tumor histology, localization, stage of the disease, the correctness of the topical diagnosis, operability, age and somatic state of the patient.

Aim of the study. The aim of this work is to study the classification of brain tumors, as well as mental problems (symptoms, syndrome and clinical picture), depending on the location and metastasis of the tumor.

Materials and methods. a literature review was studied (20 sources, published mainly over the past 2 years), devoted to the symptoms and syndromes of mental problems associated with brain tumors, as well as the classification of brain tumors.

Results. as a result of the study, the classification of brain tumors, the prognosis depending on their location and metastasis, as well as the clinical picture, symptoms and syndromes that can be found in patients with mental problems with brain tumors were studied. In addition to cerebral symptoms (increased intracranial pressure, head pain, nausea, vomiting, displacement of brain tissue) and focal neurological symptoms in brain tumors and specific symptoms are observed, depending on the location and structure. We studied transient, persistent mental disorders, as well as acute postoperative psychoses. Among transient mental disorders, there were: convulsive seizures, hallucinations, insane violations, syndrome of depersonalization and derealisation, metamorphopsia, disruption of speech, thought, memory and consciousness. Persistent mental disorders (sleep and memory disturbances, Korsakoff syndrome, retrograde amnesia), affective disorders (dreary and anxious depression, euphoria, moria), long-term disturbances of consciousness, productive and negative symptomatology, anorexia nervosa were also studied. The clinic of postoperative psychoses with and without impaired consciousness (hallucinatory-delusional, oneiric states, Korsakoff syndrome with euphoria, akinetic mutism with stupor was studied.

Conclusions. The result of the study is the allocation of specific mental symptoms and syndromes in various brain tumors (depending on the name of the tumor, localization, metastasis). The specific symptoms are systematized depending on the location of the tumor in the brain and the histological structure.

Key words: brain tumors, mental disorders,metastasis,psychoses.

161. ETIOPATHOGENESIS OF THE FIRST PSYCHOTIC EPISODE

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Introduction. Issues about pathogenesis of schizophrenia-like disorders are quite complex and relevant, modern psychiatry is trying to solve them by summing up new information. The causes of psychoses are multifactorial, there are various hypotheses on the origin of psychoses, however, the issues of etiopathogenesis require further study.

Aim of the study. The main goal is to study the risk factors, etiology and pathogenesis of psychotic episodes giving a special attention to the debut period of psychoses.

Materials and methods. A review of 30 sources were studied based mainly on the etiology, pathogenesis of early psychotic manifestations, and risk factors.

Results. Among all the hypotheses, theories, risk factors, pathogenetic mechanisms that can trigger psychosis, the most significant are: genetic predisposition, neurotransmitter and hormonal imbalance, progressive neurodegenerative changes and environmental factors. Multiple genetic risk loci for schizophrenia have been identified by modern science. The neurotransmitter dopamine plays a critical role in the pathophysiology of schizophrenia. Other neurotransmitter systems (as serotonin, glutamate) are also involved in the pathophysiology of this disorder. Molecular, cellular, structural and behavioral disorders in schizophrenia are associated with a decrease in neurotransmission on the NMDA glutamate receptors in the brain. Polymorphism in several genes associated with glutamate significantly increases the risk of schizophrenia. Estradiol significantly interacts with dopaminergic, serotonergic and glutamatergic systems, giving it the properties of atypical antipsychotic drugs. The limbic system, tonsils, hippocampus, basal ganglia and many areas of the cerebral cortex are rich in estrogen receptors. Due to the genomic and non-genomic interactions, estrogens act as a “neuroactive steroid” and affects neurodegenerative processes in the central nervous system. Anatomical abnormalities of the brain in patients with schizophrenia are reported (a decrease in the amount of gray matter in the frontal, temporal, limbic, striatal and thalamic areas, ventricular dilatation and anomalies of the medial temporal lobe and prefrontal cortex, irregular synaptic organization, ectopic neurons). Shortfall of astrocyte function is associated with incorrect glucose utilization, oxidative stress in the cerebral cortex in people with schizophrenia. Activation of inflammatory mediators (including microglia) in utero in genetically predisposed individuals increases the risk of schizophrenia.

Conclusions. The etiology remains unknown, schizophrenia is considered a disorder of neural development with polymorphic clinical manifestations and widespread pathological changes in the forebrain that are the interaction results of many risk genes with environmental factors. Understanding the influence of risk factors leading to this pathology can reveal more effectiveness in pharmacological and behavioral interventions.

Key words: Etiology Psychoses. Neurotransmitters. Pathogenesis.

162. SCREENING AND MANAGEMENT OF POSTPARTUM DEPRESSION

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Introduction. According to statistics, postpartum depression occurs in every 7th woman. This is a current problem, which influences the mother-child relationship. Literary sources recommends screening for postpartum depression at least once in the postpartum period. Current screening tools for postpartum depression are: Edinburgh Postpartum Depression Scale (EPDS), Postpartum Depressive Screening Scale (PDSS), Healthy Patient Scale (PQ-9). Using all those screening tools makes the detection of postpartum depression (severity, clinical manifestations and differential diagnosis) much easier and it also helps in receiving better results of the psychological and medication therapy.

Aim of the study. The aim of the work is to study the assessment of specific symptoms in postpartum depression and the screening tools, as well as its management.

Materials and methods. During all the process were studied literature review (20 sources, published mainly over the last 5 years), devoted to the symptoms of the postpartum depression, its classification and screening in order to detect all the symptoms of depression and start the treatment on time so as the psychotropic medications that are allowed during lactation.

Results. The results of the work includes all the issues of the screening for postpartum depression, but, with a focus on the specific screening tools that are considered worldwide indicators with a fairly high sensitivity in determining this condition. According to the literature for the Edinburgh Postpartum Depression Scale (EPDS), sensitivity is 59-100% and specificity is 49-100%, for the Postpartum Depression Screening Scale (PDSS) sensitivity and specificity are respectively: 91-94% and 72-98%, and for the Healthy Patient Scale (PQ-9), sensitivity is 75% and specificity is 90%. We also studied the clinical picture of each state in postpartum depression (ranging from milder conditions - baby blues to severe postpartum depression with a psychotic component). Management algorithms were also examined for each state of postpartum depression (psychotherapy and drug treatment, taking into account medications that are allowed during lactation according to the recommendations of the FDA).

Conclusions. In this work are listed the screening tools for postpartum depression, the examination of the clinical picture for each state of postpartum depression, and management algorithms for postpartum depression. We gave a special attention to the management and all possible issues of drug and non-drug treatment.

Key words: Screening. Management. Depression. Postpartum. Treatment.

163. COGNITIVE DISORDERS IN AFFECTIVE PATHOLOGY

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Introduction. The clinic of affective pathology is versatile, it depends on many factors, their interaction (genetic predisposition, nosological predisposition, age, gender, comorbid symptoms), can lead to extreme disability of the patient. It affects more than 300 million people worldwide. According to published data, depression in the elderly (aged 55 to 74 years) is most common (in 39% of cases), cognitive deficits and symptoms of depression often overlap. Based on DSM-5 (The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition), diagnostic criteria for a major depressive episode include a “decreased ability to concentrate and / or indecision” patients.

Aim of the study. The aim of the work is to study the interaction of affective and cognitive functions in patients.

Materials and methods. We studied 20 literary sources dedicated to the clinic of mixed conditions (affective and cognitive pathology), as well as psychometric scales: Zung Self-Rating Depression Scale, the Beck Depression Inventory, the Criteria for Epidemiologic Studies-Depression scale, and the Yesavage Geriatric Depression Scale which are recommended for patients with pathology of cognition and affect.

Results. Cognitive, short-term and long-term functional disorders are one of the most frequent persistent affective symptoms. They can affect motivation and quality of life. Cognitive deficiency may precede a depressive episode, appear simultaneously or follow it. Cognitive impairment can affect attention, verbal and non-verbal learning, short-term and working

memory, may show reduced ability to think, visual and auditory processing of information and its speed, problem solving, motor function, affect professional, family and social activity. Depressed patients think and act slowly, show indecision, inability to make decisions. This is called psychomotor inhibition.

Conclusions. It is believed that recurring episodes of depression may increase the tendency to further cognitive deficit, and functional impairment in a patient with depression is caused by cognitive dysfunction. Assessment of cognitive function should be performed in all patients with depression. Laboratory studies may be useful in the diagnosis of comorbid diseases, which can manifest themselves as the dyad “depression and decreased cognitive function”. Neuroimaging methods (computed tomography or MRI of the brain) can help diagnose a neurological disease that can cause psychiatric symptoms (affective and cognitive pathologies).

Key words: cognitive disorders, affective pathology

164. SEVERE MENTAL ILLNESSES– IMPACT AND BURDEN ON COMMUNITY MENTAL HEALTH

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Introduction. Severe Mental Illnesses (SMI) is defined as a mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities. The burden of mental illnesses is particularly concentrated among those who experience disability due to SMI. SMI are a small subset of the 300 mental illnesses that are in DSM (Diagnostic and Statistical Manual of Mental Disorders). While the line between mental health and serious mental illness is debatable, the extremities are clear. SMI represent a high burden of disease in Moldova. It's incidence and prevalence, as well as the disability caused by depressive disorders, has continuously increased. The treatment of SMI involves a holistic, multidisciplinary intervention at community level regardless of form and evolution. Community mental health care means any care or support you receive in order to help you manage a mental health problem while living in the community. Community mental health care focuses on providing services within the community, close to people's homes, and hospital stays are as close as possible, organized promptly and used only in case of need. Community mental health care offers a series of medical and social services, in the form of integrated care, in order to optimize the possibilities of recovery of the person with mental health problems. In this context, community (mental) health care could mean: Treatment, such as psychological interventions (for example, psychoeducation or psychotherapy, such as cognitive-behavioral therapy) or pharmacological interventions (eg, appropriate drugs and dosage) Crisis intervention (for example, hospitalization in the case of acute conditions at rayon hospitals or psychiatric hospital). Support or continuous interventions by the multidisciplinary community mental health team. Within any mental health system, 'good services' are those that provide efficient, safe, high quality care to the people who need them, when they need them. There is no specific model of service delivery or organizational model of good service delivery, rather general factors that underpin successful approaches (World Health Organization - WHO).

Aim of the study. The purpose of the research is to identify the social functionality and the needs of people suffering from severe mental illnesses, as well as to elaborate recommendations based on the detected needs.

Materials and methods. - Historical analyses of illnesses and care - Interview - Study and analysis of the scientific literature - Quantitative and qualitative processing of results

Conclusions. SMI is a current public health problem with a high incidence and prevalence. It leads to a high rate of disability which eventually leads to the disintegration of people within the society. Recovery requires great efforts, a multidisciplinary and holistic approach. It is a social, family and personal burden, which leads to financial, psychological and moral damage. People do not have friends and social network and the results showed this fact. People are rejected from family and society and they feel abandoned. So there is still a long way to go to rehabilitate people with SMI and integrate them into the community.

Key words: severe mental illnesses, mental health community, social functionality, social integration.

165. CLINICAL-PSYCHOLOGICAL STRUCTURE OF PERSONALITY DISORDERS

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Introduction. In recent decades there was considerable interest in psychiatrists, psychologists, and family physicians regarding personality disorders' (PD) problem. Recent researches estimate that PD are an widespread psychopathological condition (the prevalence being estimated between 7.3% and 15.7% in general population). PD always starts during a young adult age. PD is not responding well to medication and is more effectively treated by psychotherapy. Patients rarely come for getting help to a specialist. According to DSM-5, PD is an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment.

Aim of the study. To evaluate the clinical-psychological structure of some variants and PD (paranoid personality disorder, schizoid personality disorder, borderline personality disorder, avoidant personality disorder, compulsive-obsessive personality disorder) we intended an one year follow up.

Materials and methods. We proposed a study which includes these patients' clinic and the psychological tests applied in order to diagnose those patients (Rorschach Test; Minnesota Multiphysical Personality Inventory — MMPI abbreviated form; Symptom Evaluation after DSM V; Personality Test (ETP Duo)). We selected a batch of 7 persons out of 20 with suspicion of PD or other types of PD, all of them between the age of 20-40 years. The clinical data about the psychiatric patients included in the study were selected by working with patients from the Clinical Psychiatric Hospital, Chisinau, during the period of 2019-2020.

Results. Following the study we determinate 7 people with the following PD: one person with Paranoid PD (M, 30 years old), one person with schizoid PD (M, 20 years old), 2 people with borderline PD (M/F, 22/28 years old), 2 people with avoidant PD (M/F, 24/26 years old) one

person with compulsive-obsessive PD (F, 25 years old). Common features found in patients with PD would be: easy to get angry or jealous; disturbed social and occupational function; excessive dependence or independence; impulsive or compulsive; irritability; egocentrism; often resistant to treatment. Most types of PD that were included in the study co-exist with other disorders such as depression, anxiety, social dysfunction, sleep disorders, anger. From the clinical studies, stated by the patient, it was inferred that symptoms of a single disorder are primary and those of others' PD are secondary.

Conclusions. PD start in young adult (20-40 years). Also clinical observations prove that psychopathies are more pronounced in the relatively young periods of life, whereas with age there is remission. The number of patients with PD is bigger than the actual official registered, that's because these people can live with such a pathology until they encounter a social difficulty.

Key words: personality disorder, young adult, mental health, psychopathology

166. SOCIAL READJUSTMENT OF PATIENTS WITH EPILEPSY

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Introduction. In our publication we described the experience of a study in which we analyzed the social characteristics of patients with epilepsy. The conditions of the appearance of the pathology, the influence of different exogenous and endogenous factors on the manifestation of the pathology, the life conditions, level of education, the composition of the patient's family, the working conditions before and after the appearance of the pathology were, and of course the capacity of framing and interaction with the society. The study included 31 subjects age range 20 and 70 years, including 15 women and 16 men.

Aim of the study. To study the medical, social, psychological aspects, the degree of intensity and specificity of the epileptic manifestations, the risk of functional degradation of the patients with epilepsy and the level of their social rehabilitation.

Materials and methods. An inquiry was formulated including 149 questions regarding the conditions of the pathology, the influence of different exogenous and endogenous factors on the manifestation of the pathology, life conditions, level of education, the composition of the patient's family, the working conditions before and after the appearance of the pathology, and of course the capacity of framing and interaction with the company. The inquiries were completed in the presence of patients hospitalized to the sections of the Clinical Psychiatric Hospital from Chisinau.

Results. After analyzing the answers of the inquiries, we can make a characterization of the patients with epilepsy. In the occurrence of epilepsy in over 50% of the analyzed patients prevails the undetermined factors, in more than 30% prevails traumatic incidents, in about 15% the infections and the chronic intoxication. Complete higher education has 12.9% of the examined patients, incomplete - 9.6%, most of the patients had average (32.2%) and specialized studies (45.3%). 12 women and 11 men were married, or are married. Children have 11 women and 12 men.

Conclusions. Social rehabilitation of patients with epilepsy should be based on the social aspects and characteristics of these patients. So we could not talk about an effective rehabilitation as long as we did not know the level of education, the character of the work performed, the composition of the family and the personal characteristics of each individual patient. Now this information can be compared with the general population and used by specialists in the field.

Key words: Epilepsy, Rehabilitation

167. STIGMATIZATION OF PEOPLE WITH DEPRESSION IN MEDICAL STUDENTS

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Introduction. Depression is a public health issue worldwide, including in European countries. Over 350 million people worldwide suffer from depression. Stigmatization of people with depression is an important barrier to addressing a health care specialist and respecting treatment. More than 50% of people with depression have never visited a mental health specialist to receive professional help.

Aim of the study. To study the social and demographic characteristics of stigmatization towards people with depression in students from Moldova.

Materials and methods. In a cross-sectional study, we evaluated 414 medical students. The data were collected on the basis of a self-reported anonymous questionnaire, through which beyond the stigmatization of people with depression, the individual and family characteristics of the participants were evaluated. Stigmatization was assessed using the Depression Stigmatization Assessment Scale (DSS), developed by Kathleen Griffiths.

Results. The level of average stigmatization (standard deviation) measured by the Stigmatization Evaluation Scale for People with Depression (DSS) showed lower values for personal stigmatization (18.83 (4.88) compared to perceived stigmatization [26.21 (3.30), $p < 0.001$. There is no difference in the level of stigmatization regarding the presence of a person with depression in the family. Previous studies show that through contact with people with depression, the level of stigma decreases.

Conclusions. The level of personal stigmatization towards people with depression is lower than compared to perceived stigmatization in Moldova. Further research is needed to understand the characteristics of stigma against depression.

Key words: depression, stigmatization, mental health, addressing a specialist.

168. THE TREATMENT OF RESISTANT SCHIZOPHRENIA

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Introduction. Schizophrenia is a severe mental disorder characterized by positive, negative and cognitive symptoms. Schizophrenia affects 1% of general population and one of its features is the heterogeneity of response to treatment. 20–30% of individuals with schizophrenia have treatment-resistant schizophrenia. Correctly identifying these patients could contribute to reduce burden in patients themselves, in society and in economy. In fact, TRS constitutes about 60–70% of schizophrenia's cost burden. Three key elements define the concept of treatment resistant schizophrenia. These are: 1) a confirmed diagnosis of schizophrenia based on validated criteria; 2) adequate pharmacological treatment; and 3) persistence of significant symptoms despite this treatment.

Aim of the study. Studying the particularities of the clinical evolution and the management methods of the resistant schizophrenia treatment.

Materials and methods. The number of patients included in the study is 38 people who were previously diagnosed with schizophrenia. To these patients, the BPRS scale was performed to identify the response to the administered treatment. Also in the study were taken into consideration the following criteria, such as: age, heredity, gender, number of recurrences and admissions, trigger factors, duration of psychotic episode, disease evolution over the years and what antipsychotics were administered.

Results. In the study performed on 38 patients, using the BPRS scale, were identified only 3 patients, who meet the criteria of resistant schizophrenia, the patients are male over 45 years old. Now, I am studying patient's records to analyze other aspects and criteria that influence treatment resistance. By analyzing the treatment that follows, patients develop resistance to typical antipsychotics. A pattern of superiority for olanzapine, clozapine, and risperidone was seen in other efficacy outcomes, but results were not consistent and effect sizes were usually small. In addition, relatively few RCTs were available for antipsychotics other than clozapine, haloperidol, olanzapine, and risperidone. The most surprising finding was that clozapine was not significantly better than most other drugs.

Conclusions. The clinical management of patients with treatment-resistant schizophrenia is still challenging despite years of extensive research. 2 antipsychotic drugs should be tried at adequate dosage and for an adequate period, and various factors that interfere with adherence should be ruled out before making a diagnosis of treatment-resistant schizophrenia. Clozapine should be used only when it is confirmed that patients have treatment-resistant schizophrenia and their condition fails to respond to atypical antipsychotics or typical antipsychotics. The same rule applies in identifying clozapine-resistant schizophrenia. Pharmacological augmentation strategies for managing clozapine-resistant schizophrenia are widely used in clinical practice. However, there is no strong evidence that supports augmentation as an effective treatment option. ECT may be an effective augmentation strategy in the treatment of clozapine-resistant schizophrenia. It should be emphasized that psychological and psychosocial care combined with medication treatment are the key factors in maximizing the effectiveness in the treatment of patients with treatment-resistant schizophrenia.

Key words: schizophrenia, resistance, treatment, antipsychotics, criteria.

169. POSTPARTUM-DEPRESSION

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Introduction. Pregnancy, childbirth and the postpartum period are some of the most important periods in a woman's life, in which physical and mental health changes take place. Systems and organs changes occur (uterus involution, wound healing, changes in the cardiovascular, urinary, respiratory, and muscular systems). Risk factors that predispose to postnatal depression include: previous depressive episodes, feeling of despair, anxiety in pregnancy, low self-esteem, poor relationships with the partner, low socio-cultural status and loneliness. Also, women at risk of perinatal complications, hospitalization during pregnancy or termination of pregnancy by cesarean section, premature birth are more at risk. Stress associated with caring for a child and not accepting their own body after birth can also cause depression in women. First month from the postnatal period is very important because of the possibility of depressive disorders. In the post-partum period three depressive disorders may occur (baby blues, postpartum depression and postpartum psychosis). Baby blues, so-called post-partum sadness can develop four days after the baby's birth and can last up to 12 days. Anxiety, feelings of hopelessness, sleep disorders, attention and appetite disorders, lack of interest in the child and the environment are the main symptoms of post-partum depression. Postpartum depression lasts from 3 to 9 months, sometimes up to 1 year after the birth of the child. Depressive disorders in the postnatal period can have a negative impact on the development of the mother-child relationship, with long-term social, emotional consequences. and cognitive effects on mother and child.

Aim of the study. Evaluation of the psychological particularities of the post-partum period and the possibility of the appearance of the emotional disorders and post-partum depression.

Materials and methods. All relevant information was obtained from literature review.

Results. The term postpartum depression is used to define depressive symptomatology that begins in the postnatal period and represents a complex of physical, emotional and behavioral changes. Depression, historically referred to as melancholia, was classified as a mental disorder in the 1800s, when the first efforts were made to collect statistical data on the incidence of mental illness. Since then, major depression has been included in the Statistical and Diagnostic Manual of Mental Disorders (DSM), since its inception in 1952. Thus, it has been proposed that the estimated incidence of 10-20% of postpartum depression was initially classified as a major depression subtype, referred to as “major depressive disorder, with postpartum outset” in DSM-4, and is currently classified as “major depressive disorder with outset in the peripartum period” in DSM-5, because the manifestation of symptoms begins during pregnancy in about 1/3 patients with post-partum depression. According to DSM-5 postpartum depression is a major form of depression that starts in the first 4 weeks postpartum. The diagnosis of postpartum depression is based not only on the notion of time since the outset of depression, but also on its severity. An extensive study that attempted to estimate the incidence of psychiatric disorders in pregnant and postpartum women has shown an increased risk of depression in the postpartum period compared to non-pregnant women. In general, existing data in the literature suggest that the peripartum period is a vulnerable time for depression. The prevalence of postpartum depression is considered to be about 10-20%, however the prevalence varies greatly, depending on culture and depending on the income level of the countries where the studies are conducted. Thus, it has been proposed that the estimated incidence of 10-20% of the postpartum depression may be an underestimated global problem, and how the postpartum depression is often undiagnosed / underdiagnosed, with some estimates that over 50% of women with post-partum depression remain undiagnosed.

Conclusions. Women with pre-existing psychiatric disorders have an increased risk of recurrence or exacerbation during pregnancy and should be carefully monitored. Developing a screening program and extending the intervention program to subclinical and non-clinical

symptoms would help mothers cope better with maternity challenges and the emotional problems they encounter during this period of their life.

Key words: Postpartum depression, psychiatric disorders.

170. MUNCHAUSEN SYNDROME, DIFFERENTIAL DIAGNOSIS

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Introduction. Münchausen Syndrome is a severe psychiatric disorder, also called factitious disorder imposed on self, was first characterized by Richard Asher, in 1951. This syndrome is characterized by the deliberate falsification of the history of the disease, the patient produces or invents an imagined medical pathology to benefit from investigations, medical procedures and treatment. The patient is dependent on hospitalization and aims to get the attention of the medical staff that he misleads by inventing clinical symptoms that are not real. Furthermore, standard therapeutic interventions may not be effective in persons with Munchausen syndrome, causing increased confusion for the care team.

Aim of the study. Studying the particularities of the clinical evolution and differential diagnosis of Munchausen Syndrome.

Materials and methods. All relevant information was obtained from literature review.

Results. Munchausen syndrome is a disease that can be masked in the form of other mental illnesses. At present, it is important to make a correct difference between them. Differential diagnosis of factitious disorder is also made with somatoform disorders such as: conversion disorder; or pain disorder. The diagnosis of Munchausen syndrome is difficult because of the lack of correctness in the patient's statements. The hospitals where the patients are consulted by an interdisciplinary team, theoretically is the ideal environment to identify a factitious disorder and the place where appropriate measures would be taken to initiate the management of the disorder, especially in the case of abuse of a child, of an elderly person, or a person with disabilities. The correct diagnosis and management of cases with factitious disorders at the admitting department are fundamental for a good prognosis and a correct treatment.

Conclusions. Diagnosing Munchausen syndrome can be very hard because of all of the dishonesty associated with this disorder. Doctors must first rule out any possible physical and mental illnesses before considering a diagnosis of Munchausen syndrome. The lack of identification may lead to many unnecessary laboratory tests and procedures which may prolong hospitalizations and increase costs of health systems. So far, no effective treatments have been demonstrated through well-conducted studies, and no diagnostic criteria exist; these facts may explain the little knowledge of students and health practitioners about these conditions. Munchausen syndromes as well as Munchausen syndrome by proxy are variants of factitious disorders. They are challenging conditions in Medicine despite the current technology and knowledge on mind-body boundaries.

Key words: Munchausen syndrome; Munchausen syndrome by proxy; Factitious disorders, differential diagnosis

DEPARTMENT OF RHEUMATOLOGY AND NEPHROLOGY

171. SARCOPENIA ON PATIENTS WITH AUTOIMMUNE DISEASES

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Co-author: Razvan-Gabriel Budeanu

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Introduction. The European Working Group on Sarcopenia in Older People(EWGSOP) developed a clinical definition for sarcopenia as a syndrome which affects at the same time muscle mass, muscle strength and physical function. Sarcopenia appears from the imbalance between the hormonal and immunological changes that occur during the aging process. The autoimmune diseases cause the appearance of sarcopenia by increasing cytokines (TNF- α tumor necrosis factor and IL-6 interleukin-6, which play an important role in the loss of muscle mass) and inflammation in the body.

Aim of the study. The Aim of this study is to evaluate the sarcopenia of the patients with the autoimmune disease from rheumatology department.

Materials and methods. A prospective, pure observational and non-interventional study was conducted which included 17 patients with autoimmune diseases admitted in the rheumatology department of Country Hospital of Targu Mures, Romania. The muscle mass was evaluated ultrasonographic for a 5-day period (day 1 and day 5) at biceps brachii (BB) and rectus femoris (RF) muscles, the physical function was evaluated with 400 meter walk test (sarcopenic if $<0,8\text{m/s}$) and the muscle strength was evaluated with chair stand test (sarcopenic if $>15\text{s}$) which measures the time needed for every patient to rise and seated for five times. The SarQoL questionnaire was used to assess quality of life of sarcopenic patients. The statistical analysis was assessed with GraphPad Prism 6 and Microsoft Office Excel package.

Results. The mean age of the patients were 55 years old. The autoimmune diseases studied were systemic lupus erythematosus, rheumatoid arthritis, systemic sclerosis and ankylosing spondylitis with a mean age of disease of 8 years. 88% of patients can be considered sarcopenic with a mean 400 meter walk test of $0,575\text{ m/s}$ and a mean of chair stand test of $22,17\text{s}$. Ultrasonographic determinations showed a mean BB of day 1 vs day 2 of $5,07/5,04\text{ cm}^2$ and RF of day 1 vs day 2 $1,94/1,78\text{ cm}^2$ with no statistical difference between the measurement days ($p=0,06-0,94$). A higher difference was observed at the RF($p=0,06-0,3$) vs BB($p=0,43-0,91$). The SarQoL questionnaire showed a mean result of 48.75 (cut-off point 70).

Conclusions. In conclusion sarcopenia is very common in patients with autoimmune diseases, having also a big impact in patients quality of life.

Key words: autoimmune diseases, sarcopenia, ultrasonography

172. ULTRASONOGRAPHIC INTRA-INTER-VARIABILITY ON PATIENTS WITH SARCOPENIA AND AUTOIMMUNE DISEASES

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Co-author: Anamaria-Romina Jugariu

Scientific adviser: Monica Copotoiu, *George Emil Palade* University of Medicine, Pharmacy, Science and Technology of Targu Mures

Introduction. Sarcopenia is a muscle disease, which affect the muscle mass, strength and the physical performance at the older patients. Ultrasound is a new research and accurate technique for measure the muscle mass and quantity. The use of ultrasound was recently approved for diagnosis of sarcopenia.

Aim of the study. The aim of this study is to evaluate intra and inter-variability for ultrasonographic measured areas of biceps brachii (BB), rectus femoris (RF) and the diaphragm (DF) end- expiratory and maximum-inspiratory.

Materials and methods. The study included 17 patients with autoimmune disease of rheumatology department of County Hospital of Targu Mures, Romania. They were ultrasonographic evaluated for a 5-day period (day 1 and day 5) on the biceps brachii, rectus femoris and diaphragm DF (end- expiratory and maximum inspiratory) muscle to identify the intra- inter-variability between the two operators. The study is a prospective, pure observational, non-interventional and the statistical analysis was perform with Microsoft Office Excel package, GraphPad Prism 6 and SPSS. Intraclass correlation coefficient (ICC) was considered statistically significant if $ICC > 0,7$.

Results. ICC proves good inter-observer variability (P&W2009) at the following levels: BB right assessment 1 and 2 (0,755/0,847 $p < 0,0001$), BB left assessment 1 and 2 (0,8/0,818 $p < 0,0001$), RF right assessment 1 and 2 (0,858/0,927 $p < 0,0001$), RF left assessment 1 and 2 (0,89/0,77 $p < 0,0001$). Poor results were found on the diaphragm investigation: DF end-expiratory evaluation 1 and 2 (0,42/0,65 $p < 0,0001$), DF maximum inspiratory evaluation 1 and 2 (0,32/0,608 $p < 0,0001$). Regarding the intra-reliability we obtain good statistically significant results on the level of BB right 0,86, RF right 0,78 and RF left 0,78.

Conclusions. In conclusion biceps brachii and rectus femoris ultrasound showed a good inter-intra variability and the results revealed a ultrasonographic skill improvement from day 1 to day 5.

Key words: Sarcopenia, ultrasonographic, Intraclass correlation coefficient

173. PARASITES AND MUSCULOSKELETAL SYSTEM

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Introduction. Musculoskeletal impairment in parasitic infections are rare diseases more found in tropical countries. With the migration and seasonal travel of the population, many diseases considered exotic are becoming frequent in our country. In Republic of Moldova, musculoskeletal disorders have been observed in infections caused by *Toxocara canis*, *Giardia lamblia* and *Echinococcus granulosus*. Although a large number of clinical cases of locomotor system involvement in parasitic infections are described in the literature, systematic researches are lacking in this field.

Aim of the study. To analyse particularities of musculoskeletal impairment in parasitic infections.

Materials and methods. We included in our study 40 patients with musculoskeletal disorders who were diagnosed positively with different parasites (*toxocara canis* (18 subjects), *toxocara cati* (4), *echinococcus granulosus* (10), *giardia intestinalis* (4), *ascaris lumbricoides* (2) and 2

patients *ascaris lumbricoides* (associated with *Toxocara canis*). The study included 19 men (47.5%) and 21 women (52.5%). The age of the patients varies from 18 to 63, the average age being 39 years. Patients were investigated clinically and paraclinically for the exclusion of other causes of musculoskeletal impairment and for the evaluation of pathological changes.

Results. In the group of analyzed subjects 27 patients (67,5%) presented diffuse myalgia; 26 patients (65%)-localized muscle pain; 36 patients (90%)—joint pain of which 19,4%-monoarthritis, 55,6%-oligoarthritis, 25%-polyarthritis; 14 patients (35%) had swollen joints; 8 patients (20%)-reduction of joint mobility; 20 patients (50%) experienced bone pain and 95% (38 patients) had marked fatigue. From the monitored laboratory tests we mention: Level of total immunoglobulin E was greater than 240 ng/ml in 29 (72,5%) of subjects; total protein C was greater than 5 mg/l in 32 (80%); ESR was increased in 24 (60%) patients; eosinophils with values greater than 5% were in 38 (90%) subjects.

Conclusions. The pathology of the locomotor system is found in parasitosis having as substrate inflammatory, immune and allergic changes with various sites of musculoskeletal pathology. In cases of musculoskeletal impairment of non-elucidated etiology, parasitic investigation should be considered for prompt decision of therapeutic management.

Key words: Musculoskeletal Parasites

174. THE ROLE OF INFECTION IN THE DEVELOPMENT OF RHEUMATIC DISEASES

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Introduction. The etiology of rheumatic diseases is not absolutely clear and a lot of genetic and environmental factors are considered to be involved. The triggering factors for the development of rheumatoid diseases are considered to be: genetic predisposition, injuries of the musculoskeletal system, different pathogens, metabolic diseases, bad habits, etc.

Aim of the study. In this work, “The Role of Infections in the Development of Rheumatic Diseases,” a case-control study investigated the presence of infection in a particular category of rheumatic diseases.

Materials and methods. Thus, of the 500 studied cases, the infection was present in 347 cases, which is 69.4%. The data for the statistical study were taken from the patient history of the rheumatology department for January-October 2017.

Results. The distribution among the studied cases is the next one: ankylosing spondylitis - 59 cases (11.8%), the presence of infection in 29 cases (8.35%), reactive arthritis - 70 cases (14%), the presence of infection - 57 (16.45%), seronegative undifferentiated arthritis - 46 cases (9.2%) with signs of infection (6.9%), psoriatic arthritis 118 cases (23.6%) with infection - 98 cases (28.2%), rheumatoid arthritis 137 (27, 4%) the presence of infection in 101 (29.2%) cases, systemic lupus erythematosus 18 cases (3.6%), the presence of infection in 13 cases (3.74%), gout 17 cases (3.4%), with infection 9 cases (2.59%), undifferentiated connective tissue diseases 6 counts (2.6%) with infection 4 cases (1.2%), scleroderma 13 cases (2.6%) with infection 7 cases (2%), Vasculitis 10 cases (2%) of which 5 cases (1.45 %) with infection. The most common signs of the disease are rheumatoid factors - in 123 cases 35.4%, CRH-150 cases (43.2%), ASLO-88 cases (25.3%), Anti Hb core sum-83 cases (23.9 %), frequent

tonsillitis in the anamnesis of 69 cases (19.8%), pharyngeal smear of 49 cases (14.1%), genitourinary infection of 48 cases (13.9%).

Conclusions. Based on the obtained results we can confirm the presence of infection is two thirds of the total cases.

Key words: rheumatic diseases, ankylosing spondylitis, reactive arthritis, seronegative undifferentiated arthritis, Vasculitis, scleroderma, systemic lupus erythematosus, psoriatic arthritis.

175. THE CLINIC AND PARACLINIC PARTICULARITIES OF SYSTEMIC LUPUS ERYTHEMATOSUS

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Introduction. Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that can affect any organ or system. It is found in all geographical areas. The incidence is 1: 10000. About 15% of all patients must be diagnosed before 18 years. Women of childbearing age (15-45 years) are the most affected.

Aim of the study. Purpose: To represent the particularities of the systemic disorder in SLE. • Objectives: Elucidation of the incidence of SLE for age and sex groups. Highlighting multi-organ disorders in the case of SLE. Determination of paraclinical changes in SLE.

Materials and methods. The present research was focused on studying 94 electronic files of the Hospital Medical Information System (SIA AMS) of the Public Medical-Sanitary Institution Clinical Republican Hospital (IMSP SCR) "T. Moşneaga". The discharge records for the year 2019 were selected from the section Atrology and Rheumatology, that had the diagnosis of systemic lupus erythematosus after CIM-10 (code M32).

Results. 11% (N = 11) and 83% women (N = 88) were in the study. The average age of the people in the hospital with systemic lupus erythematosus was 51.27 ± 12.43 years. The average diagnostic age of SLE was 44.18 ± 14.22 years. Articular impairment is found in 98%, neurological affects 58%, hematological affects 88%, serositis 29%, skin disorders 89%, kidney damage 65%, double-stranded DNA antibodies detected at 70%.

Conclusions. Based on the results obtained, you can conclude that LES is a multi-organ autoimmune disease frequently encountered. The incidence is higher for women. The average age of the patients interned with SLE - 51.27 and those diagnosed - 44.18 years. From a systematic point of view, most frequently encountered is the articular (98%), hematological (88%) and tegumentary (89%) disease.

Key words: Systemic lupus erythematosus

176. TREATMENT IN A COHORT OF PATIENTS WITH GOUT

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Introduction. The actuality of the studied subject is conditioned by the increase of the prevalence of gout. Gout arises following the deposition of uric acid crystals in joints as a consequence of hyperuricemia. Frequent co-morbidities, non-compliance of the patients to treatment and the contribution to other organ involvement: cardiovascular diseases, severe nephropathy, disability, all these are major problems that make gout control difficult. The drugs of choice for acute gouty arthritis are nonsteroidal anti-inflammatory drugs (NSAID), colchicine and corticosteroids. Treatment with xanthine oxidase inhibitors or uricosuric drugs is indicated for the long term and the end target is the value of uric acid <360 $\mu\text{mol/L}$, and even 300 $\mu\text{mol/L}$ in patients with advanced tophaceous gout.

Aim of the study. Analysis of uric acid lowering therapy, prophylactic treatment of gout flairs and treatment strategy in acute gout attack.

Materials and methods. A retrospective study was done on patients diagnosed with gout and hospitalized in the arthrology department of the Republican Clinical Hospital for the year 2018. In the number of 66 patients, 56 of the being males and 10 females, having average age - 58 years.

Results. It was found that the average age of the disease debut was 44 years for males and 52 for females. Before hospitalization as the basic treatment 77% of the patients used allopurinol and 23% - febuxostat. 45% of them didn't administer the treatment on a regular basis, among this group the average level of uric acid was 553 $\mu\text{mol/L}$. On the other side, for the group which used to follow to treatment (55%) this indicator was 401 $\mu\text{mol/L}$. In the hospital for the acute gout attack in 65% of cases NSAID were used, in 3% - colchicin and the other 29% - combined therapy (NSAID and colchicin). In 53% of cases intraarticular corticosteroids were used. As a basic treatment it was found that for the 83,4% was indicated allopurinol and for the 16,6% febuxostat.

Conclusions. I have found correlation between the level of uric acid and compliance with the treatment. Also studied treatment methods of gout depends on the stage of the disease, age of patient, and concomitant diseases.

Key words: gout, treatment, uric acid.

177. OSTEOPOROSIS IN RHEUMATOID ARTHRITIS

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Introduction. Osteoporosis is a disease where bones lose their bone mineral density (BMD) which causes bone fragility and leads to fractures, Rheumatoid arthritis (RA) is an autoimmune inflammatory disease that affects the joints symmetrically and is known to cause secondary osteoporosis

Aim of the study. To study literatures that focus on the risk factors of osteoporosis and the correlation between it and rheumatoid arthritis.

Materials and methods. A literature search using, PubMed, Medscape and the national scientific information archive was performed. among the most relevant articles we selected 70, the data were analyzed by content structure and summarized, as well as statistical analysis where possible .

Results. In patients with RA four biomarkers are found to predict fracture sites, Tartrate-resistant acid phosphate 5b (TRACP-5b), undercarboxynated osteocalcin (Uc-OC) and bone specific alkaline phosphate (BAP) are able to realize both BMD and bone quality while homocysteine is able to realize only bone quality, In RA patients annual bone mineral density changes are $0.14 + 2.70$ in lumbar spine, $0.46 +$ in proximal hip and $1.14 + 1.85$ in forearm. Some studies show that in lumbar spine Homocysteine is the significant predictor for fractures, while in the proximal hip and forearm homocysteine does not have any significance. The most potent predictors for hip and forearm fractures are DAS28-ESR, blood pressure and Vitamin D levels other authors consider a better predictor to be ACPA and Methotrexate dosage use. Another hypothesis suggests that mycobacterium Avium Paratuberculosis (MAP) infection associated with TNF polymorphisms in patients with rheumatoid arthritis might cause secondary osteoporosis and it was found that the association between MAP infection in patients with rheumatoid arthritis and a risk for development of osteoporosis.

Conclusions. Osteoporosis is a common condition diagnosed in patients with RA. Secondary osteoporosis due to RA depends on the disease activity, ACPA level, MTX dosage. Some biochemical markers, as homocysteine, TRACP-5b, Uc-OC and bone specific alkaline phosphate can serve as predictors for osteoporotic fractures at different sites

Key words: osteoporosis, rheumatoid arthritis, biomarkers, fracture risk, hip, forearm, lumbar spine, bone mineral density

178. ASSOCIATION BETWEEN ESSENCIAL HYPERTENSION AND BONE MINERAL DENSITY

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Introduction. With society trending towards aging and unhealthy lifestyle changes the prevalence rate of essential hypertension (EH) and osteoporosis (OP) increases every year, to a point where they have become the two most common diseases in the world.

Aim of the study. To highlight the relationship between essential hypertension (EH) and bone mineral density (BMD).

Materials and methods. A systematic review on the published literature was conducted. 17 articles on the topic of association between EH and BMD were selected after searching PubMed, Medline, Medscape, and Google Scholar. The data were analysed and statistically compared .

Results. The 17 articles used have a total of 39,491 patients. Of these, 13,375 were patients with EH and 26,116 were patients without EH. The most relevant meta-analysis results showed that EH can reduce the BMD of the lumbar spine (95% CI: $-0.08 \sim 0.01$, $P=0.006$), femoral neck (95% CI: $-0.09 \sim -0.02$, $p = 0.001$), ward's triangle (95% CI: $-0.45 \sim -0.25$, $p=0.000$), femoral intertrochanteric (95% CI: $-0.90 \sim -0.64$, $p = 0.000$), calcaneus (95% CI: $-0.31 \sim -0.18$, $p = 0.000$) and distal forearm (95% CI: $-0.09 \sim -0.03$, $p = 0.000$), but EH cannot reduce the BMD of the femur rotor (95% CI: $-0.07 \sim 0.24$, $p = 0.273$). Another valuable study showed that EH can reduce the BMD of the lumbar spine (95% CI: $-0.11 \sim -0.03$, $p = 0.000$) and femoral neck (95% CI: $-0.11 \sim -0.07$, $p = 0.000$) in Asian populations. In non-Asian populations, EH

can reduce the BMD of the femoral neck (95% CI: 0.04~0.19, $p = 0.002$), but cannot reduce the BMD of the lumbar spine (95% CI: -0.04~0.11, $p = 0.346$).

Conclusions. Summarizing the articles and results analysis suggests that EH can have a negative effect on BMD, for different parts of bone, the degree of reduction is different. Furthermore, the reduction level of BMD can vary for different regions and populations.

Key words: association, essential hypertension, bone mineral density, meta-analysis

179. THE ROLE OF TRIGGER INFECTIONS IN REACTIVE ARTHRITIS

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Introduction. Reactive Arthritis(ReA) is an immune-mediated synovitis resulting from slow bacterial infections and showing intra-articular persistence of viable nonculturable bacteria and/or immunogenetic bacterial antigens synthesized by metabolically active bacteria residing in the joint and/or elsewhere in the body. Reactive arthritis is known to be triggered by a bacterial infection, particularly of the genitourinary (*Chl. trachomatis*, *Neisseria gonorrhoea*, *Mycoplasma hominis*, and *Ureaplasma urealyticum*) or GI tract (*Salmonella enteritidis*, *Shigella flexneri*, and *disenteriae*, *Yersinia enterocolitica*, *Campylobacter jejuni*, *Cl.difficile*). The incidence is about 2% to 4% after a urogenital infection mainly with *chlamydia trachomatis* and varies from 0% to 15% after gastrointestinal infections with *Salmonella*, *Shigella*, *Campylobacter*, or *Yersinia*.

Aim of the study. To identify the most common infections that lead to the reactive arthritis and to highlight the pathogenetic mechanisms of action, which would help to improve the treatment tactic.

Materials and methods. The relevant articles on the topic were taken from the databases NCBI, PubMed, Medline, and ScienceDirect .

Results. Reactive arthritis is an immune-mediated syndrome triggered by a recent infection. It is hypothesized that when the invasive bacteria reach the systemic circulation, T lymphocytes are induced by bacterial fragments such as lipopolysaccharide and nucleic acids. These activated cytotoxic-T cells then attack the synovium and other self-antigens through molecular mimicry. This is supported by the evidence of *Chlamydia trachomatis* and *C pneumoniae* ribosomal RNA transcripts, enteric bacterial DNA and bacterial degradation products in the synovial tissue and fluid. It is believed that anti-bacterial cytokine response is also impaired in reactive arthritis, resulting in the decreased elimination of the bacteria.

Conclusions. Current evidence supports the concept that reactive arthritis (ReA) is an immune-mediated synovitis resulting from slow bacterial infections and showing intra-articular persistence of viable, nonculturable bacteria and/or immunogenetic bacterial antigens synthesized by metabolically active bacteria residing in the joint and/or elsewhere in the body. The mechanisms that lead to the development of ReA are complex and basically involve an interaction between an arthritogenic agent and a predisposed host. The way in which a host accommodates to invasive facultative intracellular bacteria is the key to the development of ReA. The details of the molecular pathways that explain the articular and extra-articular manifestations of the disease are still under investigation.

Key words: bacterial infection, trigger, reactive arthritis

180. MODERN ASPECTS OF THE LABORATORY DIAGNOSIS OF THE SYSTEMIC LUPUS ERYTHEMATOSUS

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Introduction. Systemic lupus erythematosus (SLE) is a chronic, multisystem autoimmune disease with a highly variable clinical course, that usually develops in young women and is characterized by the presence of a wide profile of autoantibodies. SLE is a non-infectious autoimmune disease, that cannot be cured, but it can be controlled. The long-term prognosis for SLE has improved markedly in recent decades because of earlier diagnosis.

Aim of the study. update the aspects of the laboratory diagnosis of the SLE.

Materials and methods. A literature review on the aspects of the laboratory diagnosis of the SLE was made, using a search of electronic databases such as PubMed and the MedLine Library, including current guidelines and expert recommendations.

Results. SLE is a multi-organ system autoimmune disease with clinical and serological heterogeneity, which can represent a challenge for physician in terms of diagnosis. If there is a clinical suspicion of lupus, blood tests (including serological marker tests) should be checked. Serum anti-nuclear antibody (ANA), anti-ds-DNA antibody and anti-Smith (Sm) antibody are important biomarkers. ANAs are present in ~95% of SLE patients. The presence of anti-ds-DNA antibodies, low complement levels or anti-Sm antibodies are highly predictive of a diagnosis of SLE in patients with relevant clinical features. Anti-Ro/La and anti-RNP antibodies are less specific markers of SLE as they are found in other autoimmune rheumatic disorders as well as SLE. Tumor necrosis factor or soluble Interleukin-2 receptor values may reflect disease activity, but they are not specific for SLE. IgG antinucleosome antibodies have proven to be helpful in diagnosis of patients in the absence of anti-dsDNA or anti-Sm antibodies. A systemic review and meta-analysis showed that anti-nucleosome antibodies may actually be more sensitive than anti-dsDNA antibodies in the diagnosis of SLE (59.9% vs. 52.4%). Anti-ribosomal P antibody is another potential biomarker for the diagnosis of SLE, with a high specificity (99.4%), but low sensitivity (14.2%). T serum anti-C1q antibody and urinary monocytic chemoattractant protein-1 (UMCP-1) may be valuable biomarkers for lupus nephritis. Interferon- α is a potential biomarker for certain forms of neuropsychiatric involvement.

Conclusions. SLE is a heterogeneous disease in which diagnosis is not always easy. There is still no available biomarker that is pathognomonic for the disease. Currently, the diagnosis of SLE still requires “old-fashioned” clinical acumen with the assistance of standardized clinical and laboratory criteria. Further diagnostic investigations depend on the symptoms of SLE and should be carried out in cooperation with medical specialists from the appropriate disciplines.

Key words: Systemic lupus erythematosus, autoantibodies, biomarkers.

181. DIASTOLIC DYSFUNCTION – PITFALLS OF ETIOLOGICAL DIAGNOSIS IN CKD PATIENTS

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Introduction. It is acknowledged that patients with chronic kidney disease (CKD) have an increased risk of cardiovascular morbidity. One of the most frequent consequences among the cardiac alterations is the decrease of the heart's performance during diastole. Sometimes it is difficult to indicate the cause-effect relationship taking into account other comorbidities of these patients, which can likewise lead to diastolic dysfunction.

Aim of the study. The aim of this study is to investigate the main chronic morbidities found in patients with CKD and diastolic dysfunction.

Materials and methods. We performed a retrospective study on 44 patients (21 males and 23 females). Patients with the diagnosis of CKD and altered echocardiographic parameters of the diastolic function were included in the study. Heart failure with reduced ejection fraction and implantable cardiac devices were exclusion criteria. We analysed the data regarding personal features (age, gender, environmental origin, BMI) and the presence of other comorbidities.

Results. The mean age of the group was 71,84 years (range from 54 to 86 years), with a distribution of 53.49% in the rural area. The patients were diagnosed with CKD stages 2-5 (18.6% stage 2; 51.16% stage 3A; 27.91% stage 3B; 2.33% stage 5) and diastolic dysfunction (88.37% had impaired relaxation, 6.98% had pseudonormal pattern and 4.65% had reversible restrictive pattern). We found arterial hypertension (AHT) as the most frequent comorbidity, with 95.35% of the patients being affected (2.33% stage 1; 44.19% stage 2; 48.84% stage 3). Hypertensive cardiopathy appeared in 72% of the total number of patients, while chronic ischemic cardiopathy was found in 60.47% of the subjects. Diabetes Mellitus type 2 was diagnosed in 46.51% of the cases. 37.21% of the patients associated obesity of different degrees and 55.81% were overweight.

Conclusions. Despite the fact that CKD can lead to diastolic dysfunction, according to our results, patients often associate other comorbidities that can interfere with the pathophysiology process, such as AHT, ischemic cardiopathy, Diabetes Mellitus type 2 and obesity.

Key words: diastolic dysfunction, chronic kidney disease, comorbidities

DEPARTMENT OF CLINICAL SYNTHESIS

182. COMMUNITY-ACQUIRED VIRAL PNEUMONIAS: ETIOLOGICAL PECULIARITIES

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Introduction. Molecular diagnostic tests have greatly increased our understanding of the role of viruses in pneumonia, and findings indicate that the incidence of viral pneumonia has been underestimated. Depending on the virulence of the organism, as well as the age and comorbidities of the patient, viral pneumonia can vary from a mild, self-limited illness to a life-threatening disease.

Aim of the study. The aim of study is to highlight the etiological peculiarities of community-acquired viral pneumonias.

Materials and methods. In the study were included the patients admitted to Sfanta Treime Municipal Hospital during the year 2019 with community-acquired pneumonia (CAP) and tested for viral infections. The patients were chosen based on the clinical criteria: the presence of fever, acute onset, asthenia, myalgia, headache, cough, expectoration and dyspnea. The testing methods included detection of respiratory viruses in nasopharyngeal swabs by PCR and microbiological testing by blood and sputum cultures.

Results. Of 52 patients with CAP tested, the viral etiology was found in 42.3% (22/50). The most common was influenza A (H1N1) virus – 77.3% (17/22). Other detected viruses were rhinovirus 13.6% (3/22), metapneumovirus - 4.5% (1/22) and influenza A (H3N2) virus – 4.5% (1/22). In the majority of cases CAP had mixed viral and bacterial etiology. The most frequent association was with streptococci (*Streptococcus viridans* and *Streptococcus beta-haemolyticus*). The CAP caused by influenza A (H1N1) virus was frequently associated with severe evolution - 54.5% (12/22) and in 9.1% cases (2/22) it even lead to lethal outcome.

Conclusions. Viral etiology of community-acquired pneumonia is frequently detected, especially in patients with severe pneumonia. In many cases there is a mixed viral and bacterial infection.

Key words: community-acquired pneumonia, virus, evolution

183. SEVERE COMMUNITY-ACQUIRED PNEUMONIA: CLINICAL MANIFESTATIONS IN OBESE PATIENTS

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Introduction. Community-acquired pneumonia is a leading cause of morbidity and mortality worldwide, and is strongly influenced by comorbid conditions. Obesity is associated with higher mortality rate directly proportional to higher body mass index. Obesity is also associated with an increased risk of acquiring infections such as community-acquired pneumonia.

Aim of the study. To evaluate the obesity influence on clinical manifestations in patients with severe community-acquired pneumonia.

Materials and methods. The retrospective case-control study was based on case histories analysis of patients hospitalized with severe community-acquired pneumonia in the Department of Internal Medicine, Sfânta Treime Municipal Hospital between years 2018 and 2019. The study were included 82 patients aged between 34 and 83 years, divided in two groups: group 1 (41 patients with obesity) and group 2 (41 normal weight patients).

Results. Invasive ventilation was necessary in 34% (28/82 patients), 16 patients with obesity and 12 normal weight patients (19% vs 15%) ($p>0.05$). The mean duration of invasive

ventilation was 5.7 ± 2.5 days in obese vs 5.5 ± 3.7 days in normal weight patients. Among 82 patients, the main duration of hospitalization was 14.5 ± 5.2 days. The obese patients lengths of hospital stay was 15 ± 3.2 days vs 13 ± 2.4 days in normal weight patients ($p < 0.05$). Duration of antibacterial therapy was 19.3 ± 7.3 days in obese and 18.2 ± 5.8 days in normal weight patients ($p < 0.05$). The group of obese patients consisted of obesity class 1 - 24.4% (10/41 patients), class 2 - 26.8% (11/41 patients) and class 3 - 48.7% (20/41 patients). The presence of complications in obese was reported in all the cases, of them - 100% of acute respiratory failure, 14.6% of ARDS, 39% of pleural effusion, 22% of cardiogenic pulmonary edema, 7% of sepsis and 12% of multiple organ dysfunction syndrome.

Conclusions. The study revealed that obesity was positively associated with a longer hospitalization stay and longer duration of antibacterial therapy. No association was found between obesity and more frequent need for mechanical ventilation. The most severe complications were registered in patients with class 3 obesity.

Key words: community-acquired pneumonia, obesity, complications

DEPARTMENT OF INTERNAL MEDICINE AND SEMEIOTICS

184. DIFFERENTIAL DIAGNOSIS OF ASCITES

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Introduction. The ascites is a pathological accumulation of fluid in the peritoneal cavity, which causes severe pathology and requires urgent involvement in the diagnosis and treatment of this disease.

Aim of the study. To review the literature for determining the clinical and paraclinical picture of each cause of ascites.

Materials and methods. The following research was carried out using PubMed (MEDLINE) database, by searching such medical keywords as "Ascites" and "Etiology". The paper was supplemented with references from various books and articles found at the State University of Medicine and Pharmacy *Nicolae Testemitanu* Library.

Results. We have reviewed 23 sources, of which 6 books and 17 articles. We have found that the pathophysiology of ascites is most often different. It may develop acutely and slowly, usually accompanied by edema of the lower limbs and scrotal edema. Given the common clinical condition of ascites, the diagnostic approach is based on the biological study of the abdominal fluid, in particular the protein concentration and the albumin gradient between serum and fluid.

Conclusions. In most cases, ascites are caused by liver cirrhosis. It is possible to be present in other diseases, for example, it can be cancerous, tuberculous, cardiac, nephrotic, pancreatic or other origins.

Key words: Ascites; Etiology;

DEPARTMENT OF OPHTHALMOLOGY AND OPTOMETRY

185. OCULAR INVOLVEMENT IN PATIENTS WITH PSORIASIS AND PSORIATIC ARTHRITIS

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Introduction. Ocular involvement in patients with psoriasis are a serious problem due to permanent structural changes that are associated with decreased visual acuity in people of working age. Psoriatic arthritis could lead to ocular findings in approximately 10% of patients. It's difficult to find an optimal treatment method considering the variety of mechanisms and immune factors that are involved in the pathogenesis of the disease. TNF inhibitors have revolutionized the evolution of patients with psoriatic uveitis, but the accessibility of this treatment is a matter of time.

Aim of the study. Establishing the frequency of ocular involvement in patients with psoriatic arthritis and determining the effectiveness of different methods of treatment.

Materials and methods. This review was based on the literature findings from 1976 to 2017. This procedure led to an overall of 17 original articles that were used to support this study. This study consists of a summary of our current knowledge in the pathogenesis and treatment of patients with psoriasis and ocular findings.

Results. It has been found that people with psoriatic arthritis and severe forms of psoriasis have a higher risk of uveitis compared with control group. Conjunctivitis has a prevalence of 19,6%, followed by uveitis (7-25%), iritis (7,1%), dry eye syndrome and episcleritis. Pathogenetic treatment is the most efficient in these patients. New agents like TNF inhibitors have placed traditional treatment method with corticosteroids on the second place. Adalimumab is effective in 68% of patients, and remission was maintained in 39% of patients after one year of treatment. On the other way, it has a high rate of adverse reactions, like pulmonary embolism, congestive heart failure etc.

Conclusions. 1. Patients with psoriatic arthritis have a higher risk of developing ocular complications compared to simple forms of psoriasis. 2. Uveitis is a common complication in patients with psoriatic arthritis and has a high recurrence rate. 3. TNF inhibitors are the most effective method of treatment in psoriasis to the detriment of corticosteroids.

Key words: psoriasis, psoriatic arthritis, uveitis, ocular findings in psoriasis, TNF inhibitors in psoriatic uveitis

186. AMNIOTIC MEMBRANE TRANSPLANTATION OVER TECTONIC EPIKERATOPLASTY IN THE MANAGEMENT OF CORNEAL ULCERS: ADVANTAGES AND LIMITATIONS

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Introduction. The human amniotic membrane (AM), which has a wide range of useful effects (activation of epithelization, suppression of inflammation and scarring, inhibition of angiogenesis), is successfully used to treat eye burns, corneal ulcers, bullous keratopathy, persistent corneal erosion, Stevens-Jones syndrome, pemphigoid, recurrent pterygium, symblepharon, etc. Low immunogenicity and the possibility of preserving the membrane further expanded its clinical use. AM can be used as a surgical transplant, in which the membrane is integrated into the host tissue, as well as a biological dressing, in which the membrane temporarily lays on the surface of the eyeball. In this paper we aim to evaluate AM's efficiency in the management of corneal ulcers when compared to a well established treatment method, such as the tectonic keratoplasty.

Aim of the study. To compare the results of tectonic epikeratoplasty (TEK) and amniotic membrane transplantation (AMT) in patients with corneal ulcers and to assess the advantages and limitations of AMT in the management of ocular surface impairments.

Materials and methods. 210 patients with progression of corneal ulcers or perforated ulcers were treated during the period of 2015-2019: 96 patients were operated with TEK and 114 patients - with AMT. In TEK, a complete cornea with adjacent scleral rim was fixed upon the recipient eye by scleral sutures. In AMT, a multilayered amniotic membrane fragment was attached to the corneal surface by conjunctival sutures - patch technique - which means that the AM was used as a temporary dressing. The AM was prepared from fresh placentas of seronegative donors and stored at -80 ° C.

Results. The integrity of the corneal surface was restored in 75% (n = 72) cases in the TEK group and in 59,6% (n = 68) cases in the AMT group. Corneal vascularization after graft removal was increased in 69,8% (n = 67) of patients with TEK and 40,35% (n = 46) of patients with AMT. In the TEK group, the procedures were repeated in 19,8% (n = 19) of patients, and 6,25% (n = 6) of them had penetrating keratoplasty eventually, as opposed to 33,3% (n = 38) and 5,26% (n = 6) respectively in the AMT group.

Conclusions. Although the AM could be used as a first step measure to maintain ocular integrity, in many cases further surgery is needed for ocular surface reconstruction, as the AMT isn't effective enough if severe stromal thinning and impending corneal perforation are involved. Nevertheless, while TEK is more effective in restoring corneal integrity, AMT has a number of advantages: less complexity and duration of surgery, low antigenicity of the graft and availability of transplanted material. Both methods can be used as intermediate measures before further ocular surface reconstructive procedures can be performed.

Key words: amniotic membrane transplantation, corneal ulcer, epikeratoplasty.

187. A FIVE YEAR RETROSPECTIVE STUDY OF THE EPIDEMIOLOGICAL CHARACTERISTICS AND VISUAL OUTCOMES OF PATIENTS HOSPITALIZED FOR OCULAR TRAUMA IN BĂLȚI, MOLDOVA

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Introduction. Eye trauma is an important cause of unilateral visual impairment worldwide. Most ophthalmologists encounter patients with eye damage, which could range from small epithelial erosions to ruptures of the eyeball. Therefore, the consequences would range from a minimal deficit to a considerable loss of vision, with significant socio- economic and psychological impact.

Aim of the study. To describe the epidemiological characteristics, the clinical features and the visual outcomes of ocular trauma in Bălți, Moldova.

Materials and methods. All cases of ocular trauma admitted to Bălți Municipal Clinical Hospital from January 2008- December 2012 were retrospectively reviewed. Age, gender, the affected eye, causes, types of ocular trauma, time interval from injury to hospitalisation, initial visual acuity (VA), management and final visual acuity were documented. We also referred to the Ocular Trauma Score (OTS) in evaluating the final visual outcome.

Results. The study includes 88 patients, 88 traumatized eyes. The number of traumas recorded in men is higher than in women (76.14% and 23.86% respectively, with a male- to- female ratio of 3.19: 1). The largest age group is 45-59 years (22 cases, 25%), followed by the ≥ 60 years group (19 cases, 21.59%) and the 15-29 years (18 cases, 20.45 %). 45 patients suffered trauma of the right eye (51.14%), 43- of the left eye (48.86%). 65 patients addressed in the first 24 hours (73.86%), 6 patients (6.82%) addressed within 25-48 hours, 7 patients (7.95%) in 2-4 days and 10 patients (11.36%) in more than 4 days. Open eye injuries were the most common (52, 59.09%). Closed traumas account 22.73%, combustions- 17.05%, and destructive traumas- 1.14%. Initial VA significantly correlated with the final VA (Spearman's test, $r= 0.778$, $p<0.001$).

Conclusions. Eye trauma is one of the main causes of unilateral blindness and has a negative impact on the patient's psychological and socio- economic status. The male gender is especially prone to eye trauma. The most common traumatic mechanism was penetrating trauma.

Key words: ocular trauma, OTS, visual acuity.

MOTHER AND CHILD MEDICINE SECTION

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

188. CERVICAL INCOMPETENCE: THE GAP BETWEEN GUIDELINES AND REALITY

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Introduction. Cervical incompetence (CI), also referred to as cervical insufficiency, occurs with an incidence of 1.5-2% in pregnancy. This is a major risk factor, being one of the main causes of miscarriages and premature births. International guidelines include recommendations for the diagnosis and management of CI. Sometimes, however, real-life situations prove to us that certain rules are disobeyed in order to give a chance to life.

Aim of the study. The assessment of the gestational age, diagnostic methods and the outcome of the pregnancy in patients with and without cervical cerclage.

Materials and methods. We conducted a retrospective study of 113 patients diagnosed with IIC during 2018-2019 in the Clinical Municipal Hospital Nr.1, Department of Pregnancy Pathology, Chisinau, Republic of Moldova. We performed the assessment of the gestational age, diagnostic methods and the outcome of the pregnancy in patients with and without cervical cerclage. The patients were divided into 2 groups: cases that received a cervical cerclage and those where the cerclage application was not possible, due to contraindications: hemorrhage, vulvovaginitis, big gestational age etc. The obtained results were introduced and systematized through the Microsoft Excel program.

Results. Out of 63 patients, 39 patients (61.9%) were older than 30 years, 19 (30.16%) were 25-30 years old and 5 (7.94%) – <25 years old. 30 patients (47.62%) were multigestant, 19 (30.16%) – secundigestant and 14 (22.22%) – primigestant. Cervical cerclage was applied in 48 cases out of 63 – 76.19%. The elective cerclage was applied in 35 cases out of 48 (72.92%) and the emergency cerclage – in 13 cases (27.08%) out of 48. In 14 cases (29.17%), the cerclage procedure had no complications. From the total of 63 patients, 37 patients (58.73%) delivered at full-term: 28 by vaginal birth and 9 by caesarean section.

Conclusions. (1) The study highlights the incidence of CI in the Republic of Moldova in the period 2016-2018. (2) There is no golden standard for the diagnosis of CI. (3) The appropriate period for the cerclage application is 12-24 weeks of gestation. (4) Although there is no guarantee that the cerclage will prevent the interruption of pregnancy, its application contributes, in most cases, to the extension of the duration of the pregnancy.

Key words: cervical incompetence, cerclage, miscarriage, premature birth.

189. POST PARTUM DEPRESSION - RISK FACTORS ANALYSIS

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Introduction. Post partum depression (PPD) has been defined by the World Health Organization (WHO) as “a special state of mental health disorder and a variant of depression”, the American Psychological Association (APA) defines PPD as “a serious mental health problem characterized by a prolonged period of emotional disturbance, occurring at a time of major life change and increased responsibilities in the care of the newborn”. Depression affects 5-22% of women after childbirth. Some women with postnatal depression will experience a prolonged or relapsing illness that may last until their children enter school. It has adverse effects upon the coping abilities of women, their relationships with their infants, partners and social networks and may adversely affect the educational attainment and behaviour of their children.

Aim of the study. The purpose of this review was to examine articles related to recent epidemiological evidence of the prevalence and risk factors of maternal postnatal depression (PND) across different countries and cultures and to identify specific epidemiological studies.

Materials and methods. This was a review study, in which literature in English language was evaluated using electronic search in databases of PubMed. Searching in the databases was made using key words of “postpartum, postnatal, maternal or puerperal depression” and “risk factors” or “postnatal depression”. The search was not limited by date of publication, sample size, or whether the full text was available online. Findings in this report are based on studies of variable size and quality which sometimes reach differing conclusions. Only one Exclusion Criteria was chosen - Maternal depression with an onset greater than 1 year postpartum. The initial search results generated over 921 potential studies. Excluding duplicates and applying the inclusion criteria, a total of 104 studies were identified and retrieved. We do not found studies about postpartum depression in the Republic of Moldova.

Results. Articles' assessment showed that the factors associated with postpartum depression can be classified in five domains of risk factors for psychiatric, obstetric risk factors, biological and hormonal risk factors, social risk factors, and lifestyle risk factors. There were wide variations in the screening instruments and diagnostic tools used, although the Edinburgh Postnatal Depression Scale (EPDS) was the most common instrument applied to identify maternal PND. **Biological Factor:** Studies show that the possible connection between low serum vitamin D and depression, researchers studied the relationship between low vitamin D and perinatal depression. The rapid decline in the levels of reproductive hormones that occur after delivery has been proposed as a possible etiology of postpartum affective disorders (Wisner et al., 2002). Another study show that glucose metabolism disorders during pregnancy are also as predisposing factors for postpartum depression so that it has been observed that women with higher blood glucose levels (mean of 120 vs. 114 mg/dl) after an hour after performing the glucose challenge test with 50 g of glucose were more at risk of postpartum depression than others. **Psychological factors** Assessment the relationship between the number of delivery and postpartum depression has been associated with conflicting results. Mayberry et al. have reported Previous history of depression and anxiety is among the factors that are associated with a higher risk of postpartum depression. Risky pregnancy is also associated with an increased risk of postpartum depression. These risks include conditions that lead to performing emergency cesarean section or hospitalization during pregnancy. Important observation in the present study was that significantly higher rate of depression was observed

among women who delivered the female child. Obstetric Factors can include pregnancy related complications such as preeclampsia, hyperemesis, premature contractions as well as delivery related complications, such as emergency / elective caesarean, instrumental delivery, premature delivery and excessive bleeding intrapartum Life Events The relationship between life events and the onset of depression is well established (Brown & Harris, 1978). Experiences such as the death of a loved one, relationship breakdowns or divorce, losing a job or moving home are known to cause stress and can trigger depressive episodes in individuals with no previous history of affective disturbance. Hopkins, Campbell and Marcus (1987) found no association between life events and postpartum depression. At least two other large studies have not found an association between life events and postpartum depression (Holmes et al., 1967; Kumar et al. Hopkins, Campbell and Marcus (1987). Social Factors refers to emotional support, financial support, intelligence support, and empathy relations.

Conclusions. In summary many biological factors are involved in the incidence or prevention of postpartum depression through direct and indirect impact on the level of serotonin in the brain and its function. The evidence suggests that obstetric factors make a small but significant contribution to the development of postpartum depression. Despite the fact that most of the studies were prospective, self reported, multi site sampling with large sample sizes, the timing of the evaluation of postpartum depression differed between studies, there is evidence that low socioeconomic status has a small effect on the development of postpartum depression. However, one of the methodological limitations in the literature is the different criteria used to determine indicators of 'low income'. Social support, as it is manifest during pregnancy, is a relatively potent risk factor for postpartum depression, particularly in the form of high levels of depressive symptomatology. Although the role of vitamin D in postpartum depression is appreciated by some authors as a strong one, however, there are few studies that would demonstrate the role of vitamin D in postpartum depression, that's why we decided to determine the incidence of postpartum depression in Republic of Moldova and the role of vitamin D in postpartum depression.

Key words: postpartum depression, risk factors

190. INTRAHEPATIC CHOLESTASIS OF PREGNANCY: REVIEW OF THE LITERATURE

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Introduction. Intrahepatic cholestasis of pregnancy (ICP) is a liver disease, which complicates 0.5-1% of all pregnancies, associated with raised serum levels of bile acids and increased rates of adverse fetal outcomes. ICP is described as pruritus in pregnancy as a main symptom.

Aim of the study. To highlight the importance of epidemiological aspects of intrahepatic cholestasis of pregnancy.

Material and method. All relevant information was obtained from literature review from the open access databases.

Results. Recent studies suggest that the prevalence of ICP ranges from 0.5 to 1.0% in global population, although its incidence varies with ethnic subgroups and geographical distribution. Rates of obstetric cholestasis are high in South America, especially in Chile, with a reported prevalence rate of 12.6-22.1% depending on the ethnic population. Also, these rates have fallen

to 1.5% - 4% in recent studies, possible due to changes in diagnostic criteria. Higher rates in Araucanian Indian origin women living in Chile were identified. The incidence of ICP in U.S.A is about 0.3%, based on a small number of studies. At the same time, recent study on a Latina population in Southern California determined a prevalence in this ethnic subgroup of 5.6%, which is considerably higher than previously reported. The incidence of ICP in Europe is lower - 1% ranging insignificantly for many years. It is more common for Finland, Sweden and Portugal population, where incidence of ICP varies between 1 and 2%, comparing with France, where prevalence has been reported to be around 0.2%. At the same time it has been reported an overall incidence of 0.7% in the South Birmingham area of UK. In this study, it was found a significantly higher incidence of ICP in Asian women of Pakistani (1.46%) and Indian (1.40%) origin. A retrospective clinical audit review undertook in Australia, sample size - 43 557 pregnancies reported the overall prevalence of ICP being 0.7% (319 cases). Also high rates of ICP in Caucasian (53.6% cases) and South Asian (22.6% cases) ethnicity were registered. In general, population a higher incidence is observed in twin pregnancies (20%-22%) and in women who took in vitro fertilization medication (2.7% vs 0.7%). At the same time, authors suggest that obstetric cholestasis is more common in women over the age of 35 years.

Conclusions. Despite the fact that the global incidence of ICP is up to 1% the researches presented in this review draw special attention to wide variation due to different geographical location and ethnicity, further research is needed with detection of patients at high risk.

Key words: ICP, intrahepatic cholestasis of pregnancy

191. OVARIAN TUMORS IN MAYER-ROKITANSKY-KÜSTER-HAUSER: A CASE SERIES

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Background. Mayer-Rokitansky-Küster-Hauser syndrome (MRKH) presents a multiethiological congenital abnormality of Müllerian's ducts and it is characterized by: agenesis of the 2/3 superior part of vagina and uterine anomaly, functional and normally developed ovaries and fallopian tubes and normal secondary sexual characteristics and female karyotype. Ovarian tumors in case of this syndrome are very rare, being described in literature as unique clinical cases.

Case report. Case #1: A 35 y.o. woman with MRKH syndrome was admitted to institute with lower abdominal pain and deep dyspareunia. Her previous gynecological history included the creation of a peritoneal neovagina (Davydov's procedure) 10 years earlier. Exploration of the abdomen: a huge (20x15x10.5 cm), solid and lobular tumor of the left ovary; the band-like uterus and a normal right ovary. Laboratory studies revealed an elevated CA 125 (127 U/ml) and β -hCG (53 mIU/ml). Resection of the mass, bilateral salpingo-oophorectomy, and omentectomy were performed. Microscopic examination of surgical specimen confirmed the diagnosis of dysgerminoma. The postoperative recovery was uneventful and four courses of chemotherapy were performed. Case #2: A 38 y.o woman with history of MRKH syndrome and Davydov's procedure 17 years earlier, was admitted to hospital with constant lower

abdominal pain for 4 months. Gynecological examination: neovagina with a good anatomical result (length 7 cm) and an elastic, painful mass in the projection of left annexes. At CT: a 107x87x93 mm cystic tumor. Laboratory studies revealed a normally CA 125 and b-hCG levels. A laparoscopic removal of tumor and left annexes was performed. Exploration showed a cystic mass on the left ovary, and left ovariectomy was performed. Microscopic examination of surgical specimen confirmed the diagnosis of Sertoli-Leydig cell tumor. The postoperative recovery was uneventful and she continued the treatment at oncological department. Case #3: A 14 y.o patient was admitted to the surgery department with hypogastric pain, increased abdominal volume and primary amenorrhea. At MRI: a solid mass in the pelvic cavity with intraabdominal spread with dimensions 115.3×75.2×82mm. A diagnostic laparoscopy was performed and determined the lack of the uterus (two uterine rudiments), the left ovarian tumor and follicular cyst (5×5 cm) on the right site. Conversion with bilateral ovariectomy was performed. The light microscopy data and the immunohistochemical profile revealed ovarian dysgerminoma. The postoperative period was without any particularities. Further the patient followed six chemotherapy courses

Conclusions. Ovarian tumors in MRKH syndrome refer to a very rare gynecological pathology and should be considered in the differential diagnosis of abdominal cavity volume formations in case of this malformation. Long term clinical and radiological monitoring of patients with MRKH syndrome should be considered justified.

Key words: Mayer-Rokitansky-Küster-Hauser syndrome, ovary, ovarian tumors

192. INTRAHEPATIC CHOLESTASIS OF PREGNANCY.

DIAGNOSIS.MATERNAL AND FETAL COMPLICATIONS

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Introduction. Intrahepatic cholestasis of pregnancy (ICP) is a cholestatic disorder characterized by pruritus, elevated serum aminotransferases and bile acid levels with onset in the second or third trimester of pregnancy, and spontaneous relief of signs and symptoms within two to three weeks after delivery. ICP has been observed in almost all ethnic groups, but there is relevant geographical variation in the incidence of ICP varying from less than 1% to 27.6%. It is important to diagnose it in time because of its effects on pregnancy outcome.

Aim of the study. This review was undertaken to find the criteria of diagnosis and to evaluate the possible maternal and fetal complications.

Materials and methods. To identify relevant articles, NCBI and ScienceDirect databases were searched using the Key words: “intrahepatic cholestasis of pregnancy”, “Idiopathic jaundice of pregnancy”, “Pruritus gravidarum”, “diagnosis of intrahepatic cholestasis of pregnancy”, “outcome on intrahepatic cholestasis of pregnancy”.

Results. This study concluded that Pruritus is the primary clinical symptom of ICP. It usually presents in the third trimester, after 30 weeks of gestation, but rare cases developing early. The diagnosis of ICP is based on pruritus of cholestasis, elevated fasting serum bile acids > 10 µmol/L (± and elevated serum transaminases), spontaneous relief of signs and symptoms within two to three weeks after delivery and absence of other diseases that cause pruritus and jaundice. Mild jaundice with serum levels of conjugated bilirubin only moderately elevated occurs in 10

to 15% of cases. ICP presents a greater risk to the fetus than to the mother. ICP increases the rate of preterm delivery with the associated mortality and morbidity, meconium-stained amniotic fluid. In addition, the fetus seems to be at an increased risk for stillbirth. The major concern for the mother is for postpartum hemorrhage if her vitamin K level is low, leading to an increase in prothrombin time. Also women with ICP are more likely to have gestational diabetes, pre-eclampsia, spontaneous and iatrogenic preterm delivery, with increased rates of induction of labour.

Conclusions. ICP, especially severe ICP is associated with adverse pregnancy outcome. Pregnant women should be diagnosed in an efficient time for adopting the appropriate management to prevent complications as much as possible.

Key words: “intrahepatic cholestasis of pregnancy”, “Idiopathic jaundice of pregnancy”, “pruritus gravidarum”, “diagnosis of intrahepatic cholestasis of pregnancy”, “outcome on intrahepatic cholestasis of pregnancy”

193. DIFFERENTIAL DIAGNOSIS OF THE PRURITUS IN INTRAHEPATIC CHOLESTASIS OF PREGNANCY AND OTHER SPECIFIC DERMATOSES OF PREGNANCY

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Introduction. Pruritus affects up to 20% of pregnant women. Pruritus can be sufficiently severe to affect sleep and quality of life. Although it is commonly caused by dry skin, it can also indicate an underlying condition unique to pregnancy. The specific dermatoses of pregnancy represent a heterogeneous group of pruritic skin diseases that include intrahepatic cholestasis of pregnancy, pemphigoid gestationis, polymorphic eruption of pregnancy and atopic eruption of pregnancy. It is important for physicians to be familiar with these conditions in order to differentiate them for adopting appropriate management of the condition.

Aim of the study. This review was undertaken to find the criteria of the differential diagnosis of pruritus in Intrahepatic cholestasis of pregnancy and other specific dermatoses of pregnancy.

Materials and methods. To identify relevant articles, NCBI and ScienceDirect databases were searched using the key words: ”pruritus of pregnancy”, “intrahepatic cholestasis of pregnancy”, “dermatoses of pregnancy”.

Results. This study concluded that even if pruritus is a common sign for all specific dermatoses of pregnancy, they have some characteristics that make it possible to differentiate them. Were identified clinical criteria (time of onset, skin lesions character, skin lesions site, association with primi-/multiparity, association with a family history) and paraclinical ones (Laboratory findings, Histopathology, and immunofluorescence). The pruritus of Intrahepatic cholestasis of pregnancy appear in the second or third trimester, it worsens during the night, skin lesions a represented by excoriations, papules secondary to scratching that involve palms and soles followed by rest of the body. Laboratory findings can reveal increased serum bile acids.

Conclusions. The differential diagnosis of the Pruritus in intrahepatic cholestasis of pregnancy and in other dermatoses of pregnancy is facilitated by clinical criteria such as time of onset, skin lesions character, skin lesions site, association with primi-/multiparity, association with

family history and paraclinical ones: laboratory findings, histopathology, and immunofluorescence).

Key words: "pruritus of pregnancy", "intrahepatic cholestasis of pregnancy", "dermatoses of pregnancy";

194. STRUCTURAL LESIONS OF THE UMBILICAL CORD AND THEIR OUTCOMES

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Introduction. The umbilical cord (UC) plays a crucial role in fetal health and development, which provides communication between the placenta and the fetus allows gas and nutrient exchange. This unique lifeline needs optimal protection which is provided by Wharton's jelly, amniotic fluid, helical patterns and coiling of the umbilical vessels. It has been suggested that diameter of the umbilical cord is determined by the water content of Wharton's jelly. The lean UC is a structural abnormality, characterised by reduced or completely absent Wharton's jelly. Its three blood vessels pass along the length of the cord in a coiled or helical fashion (spiral course). The coiled umbilical cord perhaps of its elastic properties, is able to resist external forces that might compromise the umbilical vascular flow. Thus, cord abnormalities related to morphology, coiling, number of vessels, diameter, and blood flow pattern can contribute to perinatal complications.

Aim of the study. To study the association of structural abnormalities of the umbilical cord with perinatal outcomes.

Materials and methods. This prospective study included 190 patients divided into 2 groups. The study group (L1) included 95 patients with umbilical cord abnormalities and the control group (L0) with normal umbilical cord. We measured the diameter of the UC in a transverse section in the 3 parts and the cord coiling index after delivery of the adnexal complex. The statistical tests were assessed with SPSS, SAS and Microsoft Excel software and statistically analyzed. P value of less than 0.05 was regarded as statistically significant. This study was approved by institute ethical committee.

Results. According to the age criterion, living environment, marital status, the examined lots were homogeneous. In the study group the rate of lean UC was 12.6% (24) in all singleton pregnancies with the cord diameter from 0.4 to 0.7 cm. Umbilical coiling lesions was determined as hypocoiled cord – 35.79% (34) and hypercoiled – 7.37% (7) cases. Anomalous lean cord was associated with an increased risk of intrauterine growth restriction (IUGR) ($p=0.0001$), nuchal cord ($p<0.0001$), abnormal cord insertion ($p=0.003$), fetal hypoxia ($p<0.0001$), pathological adaptation period ($p<0.0001$) and neonatal morbidity ($p=0.01$). Hypocoiling was found to be significantly associated with fetal heart rate abnormalities ($p<0.0001$), the admission of the newborn in the neonatal intensive care ($p<0.0001$) and neurological disorders of the newborn ($p=0.02$). Hypercoiling was found to be associated with fetal distress, pathological adaptation period, neonatal morbidity, which demanded a transfer to other medical facilities ($p<0.05$).

Conclusions. In our study was found significant increase in the risk for an intrauterine growth restriction, fetal distress and interventional delivery for non-reassuring fetal status if cord abnormality was observed. Therefore, structural lesions of the umbilical cord were associated with several antenatal and neonatal adverse features.

Key words: structural lesions, umbilical cord, adverse features.

195. THE HUMAN ENDOMETRIUM IN PRIMARY INFERTILITY PATIENTS

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Introduction. Endometrial dysfunction represents the morpho-functional changes of the endometrium, which can be reversible or irreversible, based on disruption in molecular mechanisms that lead to infertility, embryo implantation disruption or embryo death.

Aim of the study. Evaluation of clinical and morphological particularities of endometrial dysfunction in patients with primary infertility.

Materials and methods. We provided a prospective study, which included 96 patients divided into 2 groups. The study group included 48 patients with primary infertility and the control group: 48 fertile patients. In both groups we performed endometrial biopsy in the proliferative phase with Pipelle endometrial suction curette. The study was approved by the Research Ethics Committee of the State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Republic of Moldova (No. 79/62 of 26.04.2017). Patients have signed informed consent to participate in the research. All data management and analyses were performed using SPSS 20 and Microsoft Excel 2016.

Results. The mean age in the study group was 29.0 ± 4.58 and in the control group 29.2 ± 4.29 ($p = 0.801$). The analysis of gynecological pathologies that had an impact on the patient included in the study showed that: the pathology of the fallopian tubes were found in L1 68.8% ($n = 33$) vs L0 0% ($n = 0$), $\chi^2 = 50,286$; $p \leq 0,001$, the ovary pathology was reported by patients in L1 in 52.1% ($n = 25$) versus L0 in 8.3% ($n = 4$), $\chi^2 = 21.789$; $p < 0.001$, uterine pathology L1 16.7% ($n = 8$) vs. L0 2.1% ($n = 1$), $\chi^2 = 6.008$; $p = 0.014$. Inflammatory changes in the endometrium at histological examination were in L1 79.2% ($n = 38$) vs L0 31.3% ($n = 15$), $\chi^2 = 22.238$; $p \leq 0,001$.

Conclusions. Primary infertility patients have an increased incidence of chronic salpingitis, hydrosalpinx, adhesions and endometrial dysfunction.

Key words: primary infertility, endometrial dysfunction, microbiome.

196. USE OF VISUAL PAIN RATING TOOLS IN DIAGNOSYS OF DYSMENORRHEA IN ADOLESCENT GIRLS

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Introduction. International studies suggest that between 15 to 95% of post-pubertal adolescent girls endure dysmenorrhea. The diagnosis of dysmenorrhea is clinical, but nowadays, there is no uniformity in the diagnostic process with adequate measurements tools, that allow classification of dysmenorrhea severity. It is obvious, that management of menstrual pain is optimized if the pain is assessed with the appropriate measuring tool.

Aim of the study. To evaluate existing practices in measuring menstrual pain in adolescent girls and establish the feasibility of using the WaLIDD score to diagnose dysmenorrhea among post-pubertal adolescents.

Materials and methods. Were used following materials and methods: literature review in the area; secondary data analysis, using SSPS 11 statistical tools, from Research Project on psycho-sexual development and gynaecological pathology of adolescent girls (based on interviewing by semi-structured questionnaire, including variable related menstrual pain rating by Visual Analogue Scale (VAS) 115 adolescent girls 15-18 years old who visit Youth Friendly Health Centers (YFHCs) for different reasons; in-depth interviews with 10 doctors gynaecologists from YFHCs and 1 Focus Group with adolescent girls (15-18 years old) to evaluate feasibility for applying WaLIDD scale in practice of youth friendly health services.

Results. 75% of 15-18 years old adolescents' girls who visit Youth Friendly Health Centers in Moldova for different reasons reveal menstrual pain. Pain with moderate to severe intensity had 47.8% of respondents, and intensity from very strong to extremely strong and unbearable was reported in 8.7% of cases. 28.7% from adolescent girls with menstrual pain take monthly different pain killers, with the effect of which they are not satisfied. Analyse of current practice in adolescent gynaecological care in Republic of Moldova, present that commonly menstrual pain severity is evaluate verbally without clear rating score, just in few cases is used VAS and/or verbal rating score. Latest data suggest to use a new multi-dimensional tool in assessing menstrual pain - working ability, location, intensity, days of pain in dysmenorrhea (WaLIDD). Gynaecologists from YFHCs perceived WaLIDD tool as quiet new one, informative, easy to apply and helpful for better management plan of dysmenorrhea. They show readiness to apply it in daily practice. Adolescent girls mentioned that for them use of self-administrated visual tools, like WaLIDD is more easy and affordable than existing practices and they are ready to use it.

Conclusions. The WALIDD scoring tool could be categorized as the most appropriate tool in the diagnosis severity of dysmenorrhea in adolescent girls. It is well accepted by gynaecologists form YFHCs and by adolescent girls beneficiaries and can be recommended to be used in daily practice.

Key words: dysmenorrhea, adolescent girls, Visual Analogue Scale (VAS), WALIDD.

197. THE USE OF METHOTREXATE IN ECTOPIC PREGNANCY

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Introduction. Ectopic pregnancy is one of the major emergencies in obstetrics and gynecology, being associated with a high rate of intra-abdominal bleeding if it is not diagnosed in a timely manner and is not subject to proper management.

Aim of the study. To determine the effectiveness of Methotrexate in the treatment of ectopic pregnancy and which are the β -HCG values to which it has the highest sensitivity.

Materials and methods. A retrospective study was conducted during 2016-2019, in which we found out 320 cases, of which 45 cases were treated with Methotrexate solution - a single dose. Inclusion criteria was : β -HCG \leq 5000 mIU / mL in tubal pregnancy with gestational sac diameter \leq 4 cm, lack of cardiac activity and no free fluid in Douglas space; Patients with β -HCG \geq 5000 mIU / mL and gestational sac diameter \geq 4cm and presence of cardiac activity were excluded.

Results. The success rate from a single dose of Methotrexate represented u = 10 cases - 22.8%, compared with failure u = 35 cases - 77.8%, which required surgery. The average age of the patients was 30 years, including the patients between 18-42 years. The success rate decreased with the older age of the patient. Pregnancies with more frequent occurrence at primiparity 7 cases - 70% and multiparity 3 cases - 30%. The average term of pregnancy at the time of diagnosis 4.3 weeks, p = 0.472. The success rate decreased with the increase of the gestation term. The diameter of the gestational sac was 2.3-4cm, and the success rate decreased in patients with gestational sac greater than 4cm, p = 0.132. The highest success rate was found in patients with a gestational sac of 2-3 cm in diameter - 67.2%. The study showed us a significant difference in the location of the pregnancy, although 56% were pregnancies located on the right (u = 26 patients) and 44% were located on the left (u = 29 patients). The β -HCG value ranged from 329-5200 mIU / mL, with an average of 1234 mIU / mL. Surgery against ineffectiveness required 35 cases (77.85%) that resulted in increased β -HCG or tubal rupture and abdominal pain. All cases u = 35 (77.8%) resulted in surgical laparoscopy. In u = 7 cases, were detected tubal miscarriages performing salpingoplasty as treatment in 20% of cases and in 80% of cases was performed laparoscopic tubectomy.

Conclusions. Our study demonstrated a low rate of efficacy of the conservative method of treatment of tubal pregnancy in evolution by administering Methotrexate. The data comes to contradict the beneficial experience and the weight of the success cases offered by the specialized literature in the conduct of patients with this pathology. If we strictly adhered to the inclusion criteria and the protocol of administration, it would be interesting to carry out an evaluation of the pharmacokinetics of the indigenous Methotrexate production preparation.

Key words: Methotrexate. Ectopic. Pregnancy. Pharmacokinetics.

198. HYSTEROSCOPY FINDINGS IN RECURRENT IN-VITRO FERTILISATION FAILURE

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Introduction. In vitro fertilization (IVF) has become a standard treatment for infertile couples. Increased success rates obtained over the years have resulted primarily from improved embryo quality, but implantation rates still remain lower than expected. The uterus, an important player in implantation, has been frequently neglected. While a number of uterine pathologies have been associated with spontaneous abortions, infertility and recurrent IVF failure.

Aim of the study. To evaluate the role of hysteroscopic endometrial cavity evaluation and management prior to IVF in patients with repeated implantation failures.

Materials and methods. We retrospectively studied 564 office hysteroscopies in patients with infertility and repeated IVF failure. Hysteroscopy was performed with a standard sequence, inspecting the endocervical canal, uterine cavity, endometrium, and tubal ostia. Findings were recorded using a standard report.

Results. Normal hysteroscopic findings were reported in 388 women (68.7%). The other 176 (31.3%) were with abnormal hysteroscopy. The most common reported hysteroscopic abnormality was endometrial polyp 35,2% (62/176), followed by intrauterine adhesions 29,0% (51/176), chronic endometritis 25,0% (44/176), endometrial hyperplasia 5,6% (10/176) and Müllerian anomalies 5,1% (9/176).

Conclusions. Patients with recurrent IVF embryo transfer failures should be reevaluated using hysteroscopy prior to initiating further IVF embryo transfer cycles in order to increase the clinical pregnancy outcome. Moreover, hysteroscopy should be considered as a crucial component for evaluation of infertile women with recurrent implantation failure.

Key words: Hysteroscopy; Infertility; IVF failure.

199. SURGICAL MANAGEMENT OF GIANT UTERINE LEIOMYOMA

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Background. Uterine leiomyoma is the most common benign tumor encountered in female genital pathology. It originates from the level of the smooth muscle tissue, and from the morphological point of view, the tumor is well delimited, being surrounded by a pseudocapsule. Etiology is represented by a factors such as, genetic predisposition, sexual steroids and a number of growth factors with role in the processes of angio- and fibrogenesis which are the basis of this pathology, being found in 40-50% of the cases at the age of over 35 years.

Case report. We present the case of a 46-year-old patient who, following a CT scan performed for diffuse abdominal pain and intestinal transit disorders, showed a dense bulky tumor formation, with multiple hyperdense inclusions inside and well-defined areas of necrosis, with maximum axial diameters of 133/168/249 mm (LL / AP / CC), having as a starting point most likely the uterine upper pole. A total hysterectomy is performed, with bilateral anexectomy, and the histopathological examination describes a giant subserosal leiomyofibroma of the uterus with signs of hyaline degeneration, left hydrosalpinx with strong stasis of the left tube, follicular hemorrhagic cysts of the left ovary, vascular stasis of the right tube, corpus albicans, corpus fibrosum and hemorrhagic follicular cyst of the right ovary. The objective of this study is to present the surgical management of giant uterine leiomyoma. The patient shows a favorable postoperative evolution and is discharged on 5th day in good general health, hemodynamically and respiratory stable.

Conclusions. The annual gynecological screening of female patients leads to the early detection of uterine leiomyomas that can be surgically treated by myomectomy which preserves fertility and avoiding total hysterectomy instead of choosing laparoscopic approach that reduces the days of hospitalization and postop complications.

Key words: uterine leiomyoma, myomectomy, total hysterectomy

200. QUALITY OF LIFE IN WOMEN OF REPRODUCTIVE AGE AFTER SURGICAL MENOPAUSE

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Introduction. Surgical menopause is the cessation of menses resulting from surgical removal of the uterus, leaving one or both ovaries, or the removal of both ovaries. Estrogen deficiency, arising from surgical menopause, can have both medical and psychological adverse consequences for woman's health and as a result the quality of life (QOL) decreases significantly.

Aim of the study. This study aimed to analyze the cases of surgical menopause in order to identify the age, indications, technique and surgical volume and to determine its impact on QOL in women of reproductive age.

Materials and methods. A retrospective study was performed. It includes 131 patients who underwent hysterectomy with or without ovariectomy in the period 2016-2018 in the gynecology Department of the Municipal Clinical Hospital no. 1. The QOL-BREF questionnaire recommended by the World Health Organization (WHO) was used in order to assess quality of life of 30 women of reproductive age. The WHO QOL-BREF is structured in four main domains physical, psychological, social, and environmental, summing together 26 questions. The scores had been calculated according to the standard methods. High scores indicated a good or optimal QOL and lower scores showed a poor QOL with high effect of menopausal symptoms on QOL. Those who obtained 0-33.3% scores were considered poor QOL, scores from 33.3 to 66.7% were taken as average QOL, and scores above 66.7% were considered good QOL.

Results. It was found that the average age of women varied within 31-85 years. The majority of women had ages between 40-49 (56.4%), 84 patients were of reproductive age (64%). The most common indication for the surgery was uterine myoma, undertaken in 81.8%. The analysis of the data related to the surgical technique of hysterectomy showed that most hysterectomies were performed by abdominal approach, in 93.9%. In 82.4% hysterectomy without ovariectomy was performed, in 10.7% hysterectomy with unilateral ovariectomy, and only in 6.9% hysterectomy with bilateral ovariectomy. In this study, we found the WHOQOL-BREF scores for all domain to be low for women with surgical menopause. So, for domain 1 - physical health we obtained a score of 28.4%, for domain 2 - psychological 24.2%, domain 3 - social relationships 33.1% and for domain 4 – environment 15.6%. Our study shows that an acute drop in estrogen levels in women with surgical menopause leads to severe menopausal symptoms and have a significantly worse effect on QOL. However, further studies are required to clarify the role of hormones in producing the menopausal symptoms and their effect on QOL.

Conclusions. Surgical menopause in women of reproductive age decreases all parameters of quality life and contributes to the development of psycho-emotional, neurological, sexual, hormonal, atrophic disorders as well as a decrease in social adaptation.

Key words: quality of life, surgical menopause.

201. THE ROLE OF THE INFLAMMATION IN PRETERM BIRTH

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Introduction. Preterm birth is the leading cause of neonatal morbidity and mortality. Although the underlying causes of pregnancy-associated complication are numerous, it is well established that infection and inflammation represent a highly significant risk factor in preterm birth. However, despite the clinical and public health significance, infectious agents, molecular trigger(s), and immune pathways underlying the pathogenesis of preterm birth remain underdefined and represent a major gap in knowledge.

Aim of the study. To carry out a systematic analysis of the data available in the current literature on the impact of inflammation on preterm birth

Materials and methods. Three electronic databases (PubMed, EMBASE and Web of Science) were searched for studies in any language reporting the use of multiplex assays for inflammation associated with PTB published from January 2015 to March 2020.

Results. Inflammation and complex immunologic abnormalities, occurring in the absence of well-defined infectious triggers, have similarly been correlated with PTB. In addition to chronic inflammation, breakdown of the maternal/fetal tolerance, similar to an allograft rejection, can lead to adverse pregnancy outcome and PTB-evidence observed in chronic chorioamnionitis. Studies support the association between elevated levels of circulating proinflammatory cytokines and PTB, specifically, have implicated IL-1, TNF, and IL-6 as major players in the onset of PTB. Recently, IL-6 was identified as a critical marker of i.a. inflammation and a predictor of PTB; increased amniotic fluid IL-6 levels from the second trimester were associated with the timing and initiation of PTB. More than that infusion of IL-1 or TNF into the amniotic fluid leads to marked increases in i.a. proinflammatory cytokines levels or chorioamnionitis and as results ii lead to PTB.

Conclusions. Inflammation are major risk factors for PTB. However, the molecular triggers and mechanisms underlying the activation of immune pathways associated with induction of PTB remain poorly understood. Of note, adverse pregnancy outcomes have been well correlated with bacterial infections, including chorioamnionitis. However, the sequelae of asymptomatic infections remain poorly understood and warrant further investigations. However, the mechanisms underlying such processes remain underdefined. Additional medical screening of pregnant women for signs of infections and infection-associated immune mediators thus may lead to prevent PTB.

Key words: Inflammation, preterm birth, cytokines.

202. POST-CAESAREAN SEPTIC COMPLICATIONS

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Introduction. Obstetrics and gynecology are facing various problems, one of them being septic-purulent disorders in the post-operative period, which increase the maternal mortality rate. WHO experts report that the rate of maternal mortality worldwide is inadmissibly high. Every day, due to complications caused by pregnancy and childbirth, around 800 women die in the world. Due to effective antimicrobial preparations, maternal deaths due to infection have become less frequent. The mortality rate related to the infection is almost 25 times in the case of caesarean section versus vaginal birth. Maternal mortality and morbidity after caesarean section is almost five times that of vaginal births, especially the risks of hemorrhage, sepsis, thromboembolism and embolism with amniotic fluid. In a subsequent pregnancy, caesarean section increases the risk of anterior placenta and adherent placenta, which may further lead to an increased risk of hemorrhage and peripartum hysterectomy, technical difficulties due to adhesions increase the risk of injury to the bladder and intestine. A large number of factors modify the risk of infection, the most important being prophylactic antibiotics. That is why the problem of septic-purulent complications is current and requires continuous study.

Aim of the study. Analysis and highlighting of the factors associated with the high rate of post-caesarean complications compared to vaginal births.

Materials and methods. To achieve the goal, a retrospective study was conducted, we studied the medical records of clinical observation of the patients hospitalized with septic-purulent complications in the septic gynecology section a IMSP SCM1 in 2016-2018. The study included 200 patients with puerperal septic complications, which according to the birth method are divided into two groups: Lot I -116 cases, patients with septic complications after birth per vias naturalis. Lot II- 84 cases patients with septic complication after caesarean section.

Results. The study was carried out on a batch of 200 patients, selecting data from the archive, during the years 2016-2018, with extremes of 18 and 44 years respectively, the average age being 31 years. Age distribution: the patients aged 18-20 years were 25 patients (12.5%), 21-30 years -108 patients (54%), 31-40 years -60 patients (30%), > 41 years -7 patients (3.5%). The vast majority of patients studied were primiparous, which constituted 120 (60%): group I- 55 (27.5%) cases and in group II - 65 (32.5%). In 48 (37.49%) cases. The multiparous patients were: group I in 43 (21.5%) cases and group II 37 (18.5%). We mention that the clinical picture of puerperal septic complications, both after birth per vias naturalis and after caesarean section, results with the same symptoms: fever over 38, once with chills, accelerated pulse, altered state of intoxication, pain and lower abdomen region, pathological eliminations - the slime becomes abundant, gray, then purulent, with a fetid odor in depending on the pathogen. The estimation of the results of the laboratory examination found pathological deviations in the hemolothogram, vaginal smear, smear bacteriology, ultrasonographic examination. Studying somatic anamnesia, we determined that extragenital pathologies were present in 36 (18%) patients in group I and in 13 (6.5%) patients in group II. In the structure of the supported extragenital pathology, the first place belongs to the chronic pyelonephritis present in 19 (9.5%) patients and the anemia found in 17 (8.5%) patients, the second place - cholecysto-pancreatitis, appreciated in 6 (3%), cases, obesity in 5 (2.5%) patients, autoimmune thyroiditis 2 (1%) patients, hemorrhoid disease 1 patient, pregnancy-induced HTA 4(4%) patients. According to the results obtained, the septic-purulent complications of puerperium determined in the study were Lot I- endometritis - 116 (58%), metroendometrita -8 (4%) patients, dehiscence of the suture in the perineal suppuration and -27 (23.2%). Lot number II- Endometritis 56 (28%) patients, methoendometritis 20 (10%) cases, paravezical hematoma- 7 (3.5%) patients, abscess with intra-abdominal fistula- 4 (2%) patients, suppuration and

dehiscence of the wound in the uterus -12 (14.2%) . The average length of hospitalization for patients in Group I-13.36 days, patients in Group II-7.1 days. In the etiology of puerperal complications, bacterial infection plays a major role, the microbial agents determined in the vagina were in about 50-60% cases presented by E. Coli, Enteroco- 30-35%, Mixed flora 10-15%.

Conclusions. The predisposing are: complicated obstetric anamnesis, inflammatory extragenital pathology, birth complications and the presence of hematoma after birth . Early diagnosis and complex treatment reduce the generalization of the septic process that requires enlarged surgery, amputation of the uterus with / without appendages, which severely affects the woman's subsequent reproductive function.

Key words: maternal mortality, post-cesarean complications.

203. PARTICULARITIES OF THE EVOLUTION OF PREGNANCY AND BIRTH IN PRIMIPAROUS WOMEN WITH EXTREME AGES.

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Introduction. Pregnancy in women of extreme ages has become a global problem. The notion of extreme age unites in itself, two great periods in a woman's life, adolescence and old age. According to the World Health Organization, a teenage pregnancy is defined as a pregnancy that occurs in girls aged between 10 and 19 years old. Each year, an estimated 21 million girls aged 15-19 years in developing countries become pregnant and about 12 million of them give birth, and 777,000 births occur to adolescent girls younger than 15 years. Over the last 30 years, although the birth rate has been decreasing considerably, the age at which women become pregnant has gradually increased, the fertility rate in European countries being 51.0 births per 1,000 women, Italy being in first place. In today's modern society, many women postpone pregnancy to an older age for various reasons, such as late marriage, longer life expectancy, the use of modern methods of contraception, and modern infertility treatment. Both teenage pregnancy and pregnancy in old age establish associations with a number of unfavorable outcomes and complications, such as anemia, poor nutritional status, preeclampsia, labor and premature birth, sexually transmitted infections, urinary tract infections, higher rate of assisted birth, as well as placental dysfunction, perinatal mortality, hypertensive disease, gestational diabetes, placenta praevia and abruptio placentae.

Aim of the study. Research the particularities of the evolution of pregnancy and birth in primiparous women up to 19 years of age and after 35 years.

Materials and methods. The study was conducted during 2018 and 2019, on a sample of 130 medical records in the Clinical Municipal Hospital No.1 Chisinau, Republic of Moldova. The research study presented is a descriptive, retrospective one. The patients included in the study were divided into two groups: Group I - 62 patients aged ≤ 19 years; Group II - 68 patients ≥ 35 years of age.

Results. Following the research carried out, in pregnant women the most frequently determined extragenital pathologies were diseases of the CV system ($11.76 \pm 0.42\%$) and of the CNS ($10.29 \pm 0.21\%$), while in adolescents reported more frequently anemia ($33.87 \pm 0.33\%$) and diseases of the urinary system ($24.19 \pm 0.38\%$) ($p < 0.001$). In the group I of pregnant women, the obstetrical and gynecological history was complicated by: irregular menstrual cycle

(35.4±0.66%), PID (12.90± 0.21%) and TORCH infections (9.68±0,26%), and in pregnant women of the group II - late menarche (17.65±0.50%) and uterine myoma (11.76±0.21%) (p <0.001). The results of the study revealed that pregnancy in pregnant women in group I was conceived naturally in 100% of cases, while in research group II - only in 76.47±1.21% of cases (p <0.05), and in 23.53±0.16% of cases, the pregnancy occurred through IVF. We also determined a discrepancy in the data when analyzing the mode of birth, so the primiparous adolescents gave birth naturally in 83.87±2.38% of cases, compared to those of advanced age, in which vaginal birth occurred only in 51.47±0.92% of cases, and in 48.53±0.62% of cases, by C-section (p <0.05), the main indications being cephalopelvic disproportion, dynamic dystocia, acute fetal hypoxia and IVF.

Conclusions. Following our research, we determined that maternal age is a major factor in the occurrence of pregnancy in women, having consequences on fertility with the onset of aging. We also noticed that in primiparous women with extreme ages, extragenital history complicated by (CV diseases, CNS diseases, anemia, urinary tract infections) and obstetrical and gynecological history complicated by (irregular menstrual cycle, TORCH-infections, late menarche, uterine myoma) have become important determinants in the evolution of pregnancy and childbirth. The results of the study revealed that maternal age is a risk factor for intrauterine development and the condition of the newborn at birth, as well as for the occurrence of maternal and fetal complications. In particular, adolescent age is associated with low birth weight of the fetus and advanced maternal age is associated with macrosomia (≥3999 g), thus increasing the incidence of shoulder dystocia, fetal trauma, such as cephalohematoma and clavicle fracture.

Key words: "primiparous", "pregnancy in adolescence", "advanced maternal age".

204. PELVIC INFLAMMATORY DISEASE (PID)

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Introduction. Pelvic inflammatory disease is an infection of the upper genital tract (uterus, uterine tubes, ovaries). It is usually an ascending infection from the lower genital tract - bacteria spreading directly from the cervix to the endometrium and to the upper genital tract. Most cases of PID are related to a sexually transmitted infection (85% cases), but may also include gynecological procedures, 15% cases (IUD insertion, pregnancy interruption, hysterosalpingography, endometrial biopsy, etc.), because they favor the transfer of bacteria from the vaginal level through the uterine cervix to the upper genital tract.

Aim of the study. Studying the particularities of diagnosis and management of pelvic inflammatory disease.

Materials and methods. This is a retrospective study based on 52 women diagnosed with pelvic inflammatory disease admitted in the Department of Obstetrics and Gynecology SCM, „Sfântul Arhanghel Mihail” during 2018.

Results. The average age in the study is 32.46 years. Pelvic inflammatory disease is most common, according to literature, among sexually active women. According to the age distribution: in the age group ≤ 29 years were registered 25 (48.1%) patients, in the age group 30-39 years were 16 (30.7%) patients, 40-49 years were 7 (13.5%) patients, 50-59 years were 4 (7.7%) patients, no patients were older than 60 years. According to the age in the study group, the highest rate of 48.1% is observed in the age group below 29 years, with a subsequent reduction of the cases of pelvic inflammatory disease in the age group 30-39 years, 30.7%,

with a decrease in the age categories 40-49 years, 13.5% and 50-59 years, 7.7%. According to the origin, there were 17 (32.7%) patients from the rural area and 35 (67.3%) patients from the urban area. According to the work place, 31 (59.6%) patients were employed, unemployed 11 (21.2%) patients, students 9 (17.3%) patients, invalidity degree 1 (1.9%) patient. According to patient symptoms, pain of different intensity in the lower hypogastric region had 100% patients, subfebrility 7 (13.5%) patients, temperature > 38°C had 10 (19.2%) patients, purulent leucorrhoea 11 (21.1%) patients, primary or secondary sterility 16 (30.8%) patients, general weakness 16 (30.8%) patients, bloody vaginal eliminations 2 (3.8%) patients, painful urination 2 (3.8%) patients, polymenorrhoea 1 (1.9%) patient, menometrorrhagia 1 (1.9%) patient. According to the final clinical diagnosis: chronic salpingoophoritis 22 (42.3%) cases, hydrosalpinx 11 (21.2%) cases, tube-ovarian abscess 4 (7.7%) cases, chronic salpingitis 5 (9.6%) cases, acute salpingoophoritis 7 (13.5%) cases, torsioned hydrosalpinx 2 (3.8%) cases, acute inflammatory disease, pain syndrome 1 (1.9%) case. According to the management method of the cases of pelvic inflammatory disease diagnosed, 25 (48.1%) cases were surgically managed, conservatively 27 (51.9%) cases. From the surgeries performed, 25 (100%) interventions, 13 (52%) were surgical laparoscopes, 5 (20%) Pfannenstiel laparatomas, 4 (16%) lower median laparatomas, 1 (4%) diagnostic laparoscopy, 2 (8%) puncture of the posterior fornix. The 25 surgical procedures performed were: salpingolysis was performed in 5 (20%) cases, adhesiolysis in 11 (44%) cases, tubectomies in 6 (24%) cases, anexectomies 4 (16%) cases, salpingectomies 4 (16%) cases, cystectomies 2 (8%) cases, cyst perforation 3 (12%) cases, ovarian drilling 2 (8%) cases, myomectomy 1 (4%) case, total hysterectomy with bilateral anexectomy 1 (4%) case, subtotal hysterectomy with salpingoectomy 1 (4%) case.

Conclusions. The actual incidence of PID can not be estimated, as all cases of PID are not mandatory reported. PID affects about 11% of women of reproductive age, with the highest frequency in the age group 16-25 years. Acute pelvic inflammation is recorded annually in 1-2% sexually active women.

PID is a public health problem, due to its frequency, medical, social and economic implications. The diagnosis of PID should primarily be suspected in women with lower hypogastric pain and genital tract sensitivity. PID morbidity is high and constantly increasing, requiring huge expenses, days of hospitalization and recovery. Short-term complications of PID include tube-ovarian or pelvic abscess. Long-term complications of PID include infertility, ectopic pregnancy, chronic pelvic pain. Early diagnosis and treatment can prevent complications.

205. THE IMPACT OF ENDOMETRIOSIS FERTILITY INDEX IN DAILY PRACTICE

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Introduction. Endometriosis has a current theme today, as its frequency increases with the technical progress and with the improvement of living conditions of the last decades, becoming a medical emergency with sophisticated behavior and serious consequences for women of reproductive age.

Aim of the study. To evaluate the postoperative fertility management using the endometriosis fertility index (EFI).

Materials and methods. This prospective non-interventional observational study was performed from January 2017 to February 2019 in IMSP SCM Nr. 1, an university hospital. In total, 123 patients underwent laparoscopic surgery for endometriosis and infertility. Indications

for surgery included pelvic pain (dysmenorrhoea, and/or deep dyspareunia), abnormal hysterosalpingogram, and failure to conceive after three or more ovulation cycles. Multidisciplinary fertility management followed the surgical diagnosis and treatment of endometriosis. Three postoperative groups were established based on the EFI score: EFI score ≤ 4 , ART (Group 1); EFI score 5-6, non-ART management for 4-6 months followed by ART (Group 2); or EFI score ≥ 7 , non-ART management for 6-9 months followed by ART (Group 3). The main outcomes were non-ART pregnancy rates and cumulative pregnancy rates according to EFI score. Univariate and multivariate analyses with backward stepwise logistic regression were used to explain the occurrence of non-ART pregnancy after surgery for women with EFI scores ≥ 5 . Adjustment was made for potential confounding variables that were significant ($p < 0.05$) or tending towards significance ($p < 0.1$) on univariate analysis.

Results. The cumulative pregnancy rate was 72%. The total number of women and pregnancy rates for Group 1, 2 and 3 were: 20 and 16.6 %; 42 and 34.14 %; and 61 and 49.59%, respectively. The non-ART pregnancy rates for Group 1, 2 and 3 were 0%, 29.5% and 48.2%, respectively. The ART pregnancy rates for Group were 50%, 60.6% and 80.3%, respectively. The mean time to conceive for non-ART pregnancies was 3.8 months. The benefit of ART was inversely correlated with the mean EFI score. On multivariate analysis, the EFI score was significantly associated with non-ART pregnancy.

Conclusions. In daily practice, the EFI represents a useful tool for postoperative fertility management in infertile patients with endometriosis.

Key words: endometriosis fertility index

206. BORDERLINE PARAOVARIAN SEROUS CYSTADENOMA AT ADOLESCENT PATIENT: CASE REPORT

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Background. Paraovarian/paratubar cysts (PO/PT) is about 5-20% of the cystic formations of uterine adnexes. As usual, these formations meet in the third and fourth decades of life. Paraovarian or paratubar borderline tumors are rarely registered. A limited number of communications on these cases are published in foreign literature. Considering the extreme rarity of paraovarian borderline tumors, we present our own clinical case

Case report. The 15-year-old patient M.C. was hospitalized in the surgical gynecology department in connection with the detection of ovarian cyst on the right side. She accuses moderate pain in the lower abdomen. Above bladder, at palpation there are a volume formation of about 10 cm. At USG examination: in the right ovary projection were detected a cystic formation of 103×94×87 mm (volume – 440.5 cm³), with nonhomogeneous content, with parietal vegetation on insertion wide basis, up to 38 mm, non-vascularized. Values of oncological markers: CA-125 – 34.5 U/ml (reference: 0-35 U/ml); CA-19.9 – 35.9 U/ml (reference: 0-33 U/ml); CEA – 1.3 ng/mL (reference: 0-6 ng/mL); α -fetoprotein – 0.7 IU/mL (reference 0-7 IU/mL); anti-Mullerian hormone (AMH) – 1.8 ng/mL. Phannenstiell transverse incision surgery was performed: in the paraovarian region, on the right, was determined a cystic formation, hard-elastic, diameter of about 10 cm, that did not affect the ipsilateral ovary, but involved the uterine tube. The preparation was exuded in the plaque and the tumor was

extirpated, with the ovary preservation. Because of the concretion of the capsule with the posterior side of the ligamentum, the attempt to keep the uterine tube failed and the decision was made to perform tubectomy. The postoperative period was without any particularities, the patient was discharged on the 5th postoperative day. The histological examination revealed the morphological peculiarities of a papillary cystadenoma at the limit of malignancy or, more preferably, of the borderline type, serous. Twenty-one months after surgery, the patient remained asymptomatic.

Conclusions. The clinical case presented is the fourth case of paraovarian/paratubar borderline tumor in pediatric patients, documented in the literature at that time. Ovarian conservation, with maximum preservation of fertile function, are currently the unanimously accepted tactics.

Key words: borderline, paraovarian tumor, malignancy, teenager

DEPARTMENT OF PEDIATRICS

207. ADRENAL NEUROBLASTOMA IN CHILDREN. ANALYSIS OF CLINICAL SERIES OF 6 CASES.

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Introduction. Neuroblastoma is the most common solid tumor in infants and young children and accounts for 8% of all childhood tumors. The prevalence is 1 in 7000 live births. Some studies show a two-phase incidence with a “pick” before the age of 1 year and the second between 2-4 years respectively. Neuroblastoma with localization in adrenal glands was found in each of 100 children who died in the first 3 months of life. The exact etiology remains unknown.

Aim of the study. To highlight the: clinical, laboratory, imaging and histopathological particularities and also the results of the surgical treatment of the adrenal neuroblastoma, in stages IV and IV.S.

Materials and methods. We conducted a retrospective and prospective study of a clinical series of patients with adrenal Neuroblastoma. Series, being analyzed from the perspective of the existing database in actual literature. We have evolved the clinical, laboratory and imaging particularities.

Results. Patients were divided into 3 sides according to age (0-6) months -3 patients (50%), (6-12) months - 2 patients (33%), (> 12 months) - 1 patient (17%). Gender distribution being: 2 girls (33%) and 4 boys (67%). Suggestive symptoms for the presence of a tumor were found preoperatively in 5 (83%) patients, with the exception of one patient in whom the tumor was found accidentally. The symptoms appeared in various associations in those patients. The diagnosis was established during the antenatal period for 1 (17%) patient, the other 5 (83%) - postnatal. Laboratory investigations revealed: anemia – 2 (33%) children, increased LDH activity in 4 children, increased ferritin in 4 (67%) cases. The value of the exploratory diagnostic imaging was clearly superior to the laboratory analyzes. Surgical treatment was performed in all 6 cases presented. All patients benefited from adjuvant treatment after surgical intervention. Adjuvant therapy consisted of the administration of Etoposide 50 mg, Doxorubicin 10 mg Carboplatin 10 mg, Cyclophosphanan 300 mg.

Conclusions. The treatment of neuroblastoma is multimodal and depends on the extent of the lesions, the research data, the staging criteria. The neuroblastoma has a reserved prognosis when regional ganglia are involved and serum glycosylated ferritin is increased.

Key words: Neuroblastoma Ferritin

208. VISUAL DISTURBANCES DIAGNOSE IN CHILDREN AFTER HEAD TRAUMA

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Introduction. Even if medicine science undergoes a continuous development we may still outline that brain injury still be considered as one of the most frequent medical conditions all around the world. As far as the statistics outline that the rate of brain trauma among children is all the time in progress rating double as speaking about age between 7 and 18 years, still we find it difficult to evaluate this category of patients. That is why visual disturbances that may be an outcome of a brain trauma in a child will have a definite role in its future development as an adult. The management comes quite different when we speak of children versus adults, requesting an adequate approach for visual post-traumatic deficiencies appreciation.

Aim of the study. Aim of the study is to determine and classify visual disturbances that appear after head trauma in children in order to assess a personalized approach.

Materials and methods. The study was a case control research based on 49 patients hospitalized at the neurosurgery department suffering from a traumatic brain injury (TBI) and 49 patients with visual disturbances but with no brain injury in the past five years. The patients have undergone a full ophthalmological evaluation by using all of the standard and auxiliary investigations required. Since the research has been provided for children, the diagnostic approach has been selected individually since the patients were hospitalized at different ages and general status.

Results. Results showed a loss of visual acuity in the first 72 hours after trauma, the number being determined in 41 (83,7 %) patients after TBI, mostly diagnosed with hyperopia indexes while undergoing autorefractometric evaluation in 45 (91,8%) patients. There have been also determined changes in visual field examination in the acute stage after trauma, patients presenting fixation loss in almost 44 (89,8%) patients establishing visual field disturbances of a different area in almost all of these patients. According to the contrast sensitivity test we may also outline a clear disturbance for color perception being present in 46 patients after TBI that in 94% of cases. We may also outline that 45 children presented convergence insufficiency with an average near-point of convergence (NPC) ranging between 7-9 mm.

Conclusions. The research noted once again that children present a full spectrum of vision alteration being a process established fast but with clear peculiarities for a full recovery. Due to some distinguished aspects in cerebral blood flow regulation, the pediatric age group is subject to the development of intracranial hypertension (ICH), the cause of the development of which is the expansion of the brain. This reveals the cause for the acute onset of visual disturbances after head injury in children. Also it has been revealed that most of the standard ophthalmologic

investigations should be indicated not in the acute stage since the values may be increased due to a transient picture of visual disturbances without a need in treatment but only with concern of future evaluation.

Key words: traumatic brain injury, visual disorders in children, vision loss after head trauma.

209. THE PATTERNS OF COXOFEMURAL PAIN

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Background. Hip pain is a common complaint that can be caused by a wide variety of problems. These problems include: problems within the hip joint, problems with muscles, ligaments, tendons and other soft tissues that surround our hip joint. Hip pain can sometimes be caused by diseases and conditions in other areas of our body. This type of pain is called referred pain. According to Doctor Peter A Negrovic we can classify hip pain into specific patterns: Infectious, Inflammatory, Orthopedic and Neoplastic. This report puts into comparison 2 types of hip pain patterns, Infectious and Neoplastic.

Case report. First case. Boy, 11 years old, presents to the doctor with left hip pain and pathological gait. Anamnesis vitae: ill for about 1 year, acute debut.; Orthopedic evaluated with gypsum immobilization and NSAIDs per os. Anamnesis vitae: contact TB infection with grandfather in 2016; incomplete chemoprophylaxis, 3.5 months H 0.25 x 1 daily with milk, polyvitamin, hepatoprotective. Status praesens: cachexy, arthralgia and limited mobility in the left hip joint; flexion contracture, internal rotation, 20 mm shortening and left lower limb hypotrophy, left knee and talocrural arthralgia, VAS=70 mm. Presumptive diagnosis: coxarthrosis /JIA? . Paraclinical examination: ESR=24mm/h; CT=suggestive imaging data for left coxo-femoral arthritis; Mantoux test = 30 mm (hyperergic). From the following considerations: presence of contact; Mantoux test=30 mm (hyperergic) and characteristic symptoms for TB; we can make the clinical diagnosis: left tuberculous coxitis. Second case. Boy, 4 years old, presents to the doctor with fever (38.5 C) right hip pain and difficulty in walking. Anamnesis vitae: ill for about 2 weeks, acute debut.; Orthopedic evaluated and NSAIDs per os. Status praesens: cachexy, arthralgia and limited mobility in the right hip joint; extension contracture, nocturnal pain, VAS=80 mm. Presumptive diagnosis: coxarthrosis /JIA? . Paraclinical examination: ESR=33mm/h; CRP=48; LDH=616; CT=the presence of the tumor formation in the region of the superior posterior mediastinum on the left site with extension in the carotid space on the left site, at the C8-T4 level, of size 4.5*1.6*4.3 cm+liver metastases confirmed after biopsy; histopathological test: lymphoproliferative tumor. Taking into account the above we can make the clinical diagnosis of: posterior mediastinal malignant tumor, liver metastases.

Conclusions. According to the different patterns of hip pain presentation, our goal is to examine and treat patients holistically and comprehensively. Referring to the cases presented above, patients may present with referred hip pain, and treatment of the underlying disease, relieves hip pain.

Key words: Hip pain, patterns, TB, diagnosis.

210. MONITORING METHOTREXATE-INDUCED LIVER TOXICITY IN JUVENILE IDIOPATHIC ARTHRITIS: NEW PERSPECTIVES

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Introduction. Despite the existing evidence that methotrexate-associated liver toxicity is related to comorbid risk factors and common NSAIDs and steroid therapy use rather than to methotrexate itself, significant research continues in the monitoring of low-dose methotrexate in patients with JIA. The gold standard investigation remains to be liver biopsy with its potential medical risks. However, a number of new evaluation techniques have been developed for this purpose, including transient liver elastography. Moreover, MTHFR genetic susceptibility according to Genome-Wide Association Studies (GWAS) is being involved in most treatment regimen toxicities.

Aim of the study. To appreciate the importance of MTHFR genetic polymorphism and liver elastography screening in children with JIA prior to use of low-dose methotrexate treatment.

Materials and methods. There has been initiated an observational case-control study, involving at least 24 patients using low-dose methotrexate for JIA treatment. All children underwent transient unidimensional liver elastography scanning for estimation of liver toxicity according to EFSUMB pediatric reference values. The statistical evaluation was done through IBM SPSS 22 Software.

Results. The study sample included 40 children aged between 2 and 18 years. There has been determined 6 (15%) cases of combined 677C/T and 1298A/C heterozygote significant mutation, 6 (15%) cases of 677T/T significant homozygotes and 28 (70%) cases of non-significant MTHFR polymorphisms. Children without significant MTHFR polymorphisms had a 67,8% rate of increased liver stiffness and a moderate to low disease activity in the first 148,8 weeks of low-dose methotrexate use (95% CI 2.0-4.2, $p=0,00012$). In the significant mutation groups, a 41,6% cases resulted in normal liver stiffness values after 6 months of low-dose methotrexate monotherapy use as well as low response with high disease activity according to DAS28 (95% CI 3,6-6.1, $p=0,00026$).

Conclusions. The value of MTHFR genetic screening and liver stiffness evaluation is well proved in children with low-dose methotrexate JIA treatment. The significant mutations could lead to 4-fold risk of high disease activity and normal liver stiffness despite the appropriate treatment regimen.

Key words: MTHFR, methotrexate, JIA, children, elastography

211. ETIOLOGY OF SEIZURES IN CHILDREN

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Introduction. Seizures in children are the most common neurological manifestations. 0,5-1% of children in the USA and Europe have occasional seizures, caused by metabolic or

neurological disorders, more commonly in the neonatal period. In the Republic of Moldova, the incidence of neonatal seizures varies from 0,2-2,7 per 1000 live births and 57,5-132 per 1000 preterm infants.

Aim of the study. Studying the multi-factorial etiology of seizures in children, in order to highlight the most common causes that lead to their onset. Analyse the particularities of the complaints, according to the cause, the age of the child, the severity in order to highlight the most common ones, to find what is common in these patients.

Materials and methods. The study includes 100 randomly selected patients admitted to the pediatric neurology department of the IMSP ICM (Public Medical Sanitary Institution Scientific Research Institute of Mother and Child Health Care) during the years 2017-2018. 39 girls and 61 boys aged 0-18 were analyzed. The research was based on the clinical examination of the patients and on the results of laboratory and instrumental investigations.

Results. Seizures were distributed by age as follows: 55% in children up to 3 years old, followed by a decrease in frequency up to 18 years, given that in the first years of life the immune system is immature, thus children are more susceptible to infections. In the study group, more frequent fever seizures occurred in the case of intercurrent illnesses (Acute viral respiratory infection, pneumonia-87,5% in children with chest X-ray). Among the complaints at hospitalization were: 18%- headache, 17%- tonic-clonic seizures, 11%-dizziness. Doppler ultrasound of the master vessels was performed at 13%, of which 69,2% were modified: 33,34% venous congestion and 22,22% was due to the slightly diminished flow on the right vertebral artery. CT was performed in 20% of children with changes in 45%, of which 28,57% is hydrocephalus, due to head trauma, brain malformations, meningitis or other infections in the brain. The electroencephalogram was performed in 87%, in 57,5% changes were detected, of which 33,37%- moderate changes in the brain's bioelectrical activity, and in 17,5%- isolated epileptiform K-complexes.

Conclusions. Seizures in children are a medical emergency. Following the study, I can say that 29% of children had seizures due to TORCH, bacterial, viral infections, 21%- due to hypoxic-ischemic and hypoxic-traumatic encephalopathy, 9%-metabolic causes, 2%- cerebral abnormalities, and the rest 39%- other causes.

Key words: Seizures, children.

212. LEFT VENTRICULAR HYPERTROPHY IN PEDIATRIC HYPERTENSION

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Introduction. Left ventricular hypertrophy (LVH) is the most commonly assessed target organ effect of hypertension (HTN) among children and adolescents. Left ventricular hypertrophy is an independent predictor of cardiovascular morbidity and mortality in children. Prevention or regression of left ventricle (LV) geometric changes with blood pressure control is an effective way of decreasing future adverse cardiovascular disease outcomes in patients with HTN.

Aim of the study. The purpose is to provide background on the importance of LVH in children with HTN, to assess frequency of LVH and determine the correlation between cardiac index of left ventricular mass (LVM) and body mass index (BMI), simpatoadrenale system activity and blood pressure variability.

Materials and methods. This study included 20 patients aged 10-18 years with HTN, who were treated in 2018-2019 in the Department of Cardiology of the Institution of Mother and Child. Left ventricular mass was calculated using the formula by Devereux et al. according to the American Society of Echocardiography guidelines. The left ventricular mass index (LVMI) was derived by dividing LVM in grams by the subject's height in meters raised to the 2.7 power. Left ventricular geometry was classified as normal, concentric remodeling, concentric LVH, or eccentric LVH. Respondents were examined through echocardiography, also the tension values, and BMI were evaluated.

Results. Left ventricular hypertrophy was reported in 7 (35%) children with HTN, and in 2 (10%) children severe LVH was determined ($> 51 \text{ g/m}^2$, 7). Nearly 4 (20%) children with normal arterial blood pressure had LVH. Left ventricular hypertrophy was more frequently detected in boys ($n=5$; 38%) compared to girls ($n=2$; 28, 6%). Distribution by LV geometry revealed concentric remodeling of the LV in 1 (5%) patients; concentric hypertrophy was found in 4 (20%) hypertensive children and eccentric hypertrophy was detected in 2 (10%) patients ($p < 0,05$). The main factors that contribute to development of LVH are: obesity, mean values of systolic blood pressure ($131, 4 \pm 1, 11$ versus $123, 17 \pm 1, 22$), the level of plasma and urinary catecholamines (85% versus 55%). There is a statistically significant correlation between BMI and LVH ($p < 0,001$). Thus, in this study, children with LVH were more frequently obese (40%) compared with patients who had normal LVMI (5%). The mean value of BMI percentile in children with LVH was $82, 3 \pm 4, 0 \text{ kg/m}^2$ compared with $66, 7 \pm 3, 5 \text{ kg/m}^2$ in subjects with normal LVMI ($p < 0, 01$).

Conclusions. The study reveals that LVH is the most common target organ effect of HTN in children. Adaptation of the LV myocardium to pressure overload in hypertensive children resulted in the development of more frequent concentric hypertrophy and eccentric hypertrophy. Obesity and high level of plasma and urinary catecholamines is associated with increased risk for LVM in children.

Key words: left ventricular hypertrophy, children, hypertension.

213. INSIGHTFUL IMAGING: CT OR MRI IN ACCURATELY DIAGNOSING ACUTE APPENDICITIS IN CHILDREN

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Introduction. Appendicitis is the most common condition requiring acute abdominal surgery in children. Clinical diagnosis of acute appendicitis (AA) is not always straightforward, and abdominal ultrasound is specific but insufficiently sensitive. Computed tomography (CT) has become favored but its use in children is discouraged due to ionizing radiation exposure. Therefore, magnetic resonance imaging (MRI) is considered an alternative.

Aim of the study. This study aims to compare the accuracy of MRI with that of CT for the diagnosis of AA in pediatric patients.

Materials and methods. For this systematic review, a search of the PubMed database was conducted to select studies that used MRI for diagnosing pediatric patients with suspected appendicitis. Studies that focused on evaluating the accuracy of MRI to diagnose appendicitis were included. Studies with insufficient data to calculate the outcomes were excluded, as well

as those older than ten years. Data for sensitivity and specificity of MRI were extracted from the studies, then, using Barnard's exact test, tested for significance compared to sensitivity and specificity of CT.

Results. Eleven studies met eligibility criteria and were relevant to the question of this systematic review. Sensitivity and specificity were 0.96 (0.95–0.97) and 0.96 (0.94–0.98) for MRI, as compared to 0.94 (0.92–0.97) and 0.95 (0.94–0.97) for CT (with 95% CI).

Conclusions. The authors concluded that the accuracies of MRI and CT for the diagnosis of AA in pediatric patients are very similar, without any statistically significant difference in accuracy. Therefore, MRI constitutes a viable and safer approach to diagnosing AA due to its sensitivity, specificity and lack of exposure to radiation.

Key words: computed tomography, acute appendicitis, magnetic resonance imaging

214. VALUE OF SCREENING TESTING FOR CELIAC DISEASE IN CHILDREN

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Introduction. Celiac disease (CD) is a systemic autoimmune disease triggered by gluten. A higher incidence of CD in rheumatology conditions have been reported. Joint pain and arthritis are also manifestations of celiac disease.

Materials and methods. There have been a few case reports of children with both JIA and celiac disease.

Results. A number of 116 patients (between 0 and 18 years old) have been tested for CD. Including criteria were various, but failure to thrive and digestive symptoms were the first to consider. From 116 patients tested, only 3 patients were found positive. We present the case of a 16 year old patient, known with juvenile arthritis since she was 3 years old, and admitted with abdominal pain, swelling and pain of her left knee and 4 kg weight loss. She was under chronic treatment with Naprosyn and iron preparation, with good effects. Her anti-transglutaminase antibody was very high, but after 6 months of gluten-free diet, the patient showed improvement of her general status.

Conclusions. Some of the medications used to treat JIA can cause side effects similar to common symptoms of celiac disease, such as intestinal distress, abdominal pain and lack of growth. There is a proven association between celiac disease and other autoimmune disease, such as juvenile arthritis and diabetes mellitus. Long term studies with more patients are needed to prove more precise interpretation about the link between these 2 conditions.

Key words: Celiac disease, systemic autoimmune disease, juvenile arthritis, diagnosis

215. CLINICO-EPIDEMIOLOGICAL FEATURES OF ADENOID VEGETATION OF CHILDREN

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Introduction. Hypertrophy of adenoid vegetation is a common pathology among children and adolescents, being considered one of the main causes of upper respiratory obstruction of children, which can develop with major complications (Pereira L.-34.46%).

Aim of the study. We set out to study the prevalence of this pathology according to gender, age, living environment, risk factors, clinical symptoms, diagnostic methods, complications.

Materials and methods. A randomized retrospective study was performed on a group of 60 patients. They have been selected within the IMSP Institute of the Mother and Child Clinic "Emilian Coțaga " for 3 years: 2017, 2018, 2019. The data collected included: age, gender, living environment, risk factors, symptoms, diagnostic methods and complications. Subsequently, the patients were divided into 4 age categories: 0-5 years, 6-10 years, 11-15 years, 16-18 years. Then, the group of patients from the rural area - 34, was divided by areas: North, Center, South and the left side of Dniester.

Results. The following results were obtained: male gender - 40 patients (66.66%); female gender - 20 subjects (33, 33%); rural area - 34 patients (56.66%); urban area - 26 subjects (43.33%). The rate of affected age category was: 0-5 years - 35 children (58.33%); 6-10 years - 18 patients (30%); 11-15 years - 7 teenagers (11.66%). Regarding the distribution on the territorial areas of the republic, the following was determined: North - 10% (29.41%), South - 9% (26.47%), Center - 12% (35.29%), the left side of Dniester - 3% (8.82%). From the risk factors, were highlighted: food atopic dermatitis, acute viral respiratory infections, angina, chronic hypertrophic rhinitis. Patients' symptoms: 100% - nasal respiration, 75% - cough, 60% - post-nasal drip, 30% - hearing impairment. The used diagnostic methods were: conventional radiography, acoustic rhinometry, rhinomanometry, optical endoscopy, fibrorinoscopy. Also, were established the complications: chronic suppurated mesotimpanita, bilateral seromucous otitis media, maxillary rhinosinusitis, verbal and intellectual developmental delay, sleep apnea.

Conclusions. We determined the prevalence of the pathology among: the male gender, the children from the rural area, age category- 0-5 years old, which corresponds to the period when the adenoid vegetation reaches its maximum size. Also, regarding the distribution by territorial areas, the most affected area was the Center. By the way, we have observed the interdependence between the risk factors and the appearance of the disease, such as: allergies - seasonal or throughout the year, respiratory infections supported. It is important to mention that the complications of the given pathology refer to the impairment of the nasal functions, the middle ear, sleep apnea, but also the verbal and intellectual disability.

Key words: Adenoid vegetation, children, epidemiology.

216. ASPECTS OF ETIOPATHOGENY AND CELL THERAPY IN THE TREATMENT OF RECURRENT AND CHRONIC RHINOSINUSITIS IN CHILDREN

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Introduction. Chronic rhinosinusitis is an important problem of otolaryngology, its treatment being so far below the expected level. The incidence of rhinosinusitis in the last decades has

increased almost 3 times, while there is a clear tendency to increase the frequency of recurrent and chronic forms of sinusitis. The study of the etiology, pathogenesis and development of effective sinusitis treatment principles is also due to the appearance, in some cases, of severe pansinusitis with orbital or intracranial complications with the development of septic states. At the same time, chronic inflammatory pathology of the nasal cavity and paranasal sinuses often leads to body allergies, the development of bronchopulmonary pathologies and the dysfunction of several organ systems. Thus, a new research is needed regarding the study of the pathogenesis of chronic sinusitis and the pathogenetic basis of the new complex treatment principles of inflammatory rhinosinusal pathologies using cell therapy with the application of autologous mononuclear cells, cell strain, drug-carrying nanoparticles and antioxidants.

Aim of the study. Studying specialized literature in order to carry out a research of the etiopathogenesis oriented to the optimization of the treatment of recurrent and chronic rhinosinusitis in children, through cell therapy.

Materials and methods. This article analyzes the data from the literature on the etiopathogeny and the importance of cell therapy in the treatment of rhinosinus inflammatory pathology. The bibliographic databases Cochrane, PubMed, Medline were accessed.

Results. A study of sixty-seven patients with chronic low-level CD8 + T lymphocyte rhinosinusitis were investigated and analyzed according to demographic data, disease progression and bacteriological culture, which were compared with a group of 480 patients with CRS with nasal polyposis. The medium CD8 + level in the CRS / CD8 population was $0.15 \times 10^9 / L$ (range, $0.20-1.5 \times 10^9 / L$). There was no difference between the two groups regarding the history of allergy, asthma, eczema, acetylsalicylic acid (ASA) intolerance or smoking. The bacteriology was similar between the two groups (*S. aureus*: CRS / Low CD8 +: 35%; CRS 32%, $p = 0.643$). The disease progression was slightly easier in CRS / Low CD8 +, with fewer patients requiring surgery, and the first surgery was performed at an older age. However, antibiotic use was higher in CRS / Low CD8 +. Analysis of subgroups limited to CRS with nasal polyposis (CRSwNP) / low CD8 or CRS without nasal polyposis (CRSsNP) / low CD8 phenotypes did not substantially change these results. Another multicenter study of systemic administration of bone marrow-derived mesenchymal cell preparation (MSC) (Prochymal; Osiris Therapeutics Inc) in patients with moderately severe chronic obstructive bronchopneumopathy (COPD) in the United States has demonstrated to be safety without acute infusion toxicity and no attributable mortality or serious adverse reactions over a follow-up period of two years. Several laboratory studies show that Stem cells derived from adipose tissue (AUC) have the ability to regenerate mucosal lesions of the vocal cords. Professor Danilov L. (2016) proposed a new method of local immunocorrection (with autologous mononuclear cells) in the conservative complex treatment of compensated chronic tonsillitis in children which has been shown to be very effective, through the positive clinical effect, the normalization of the preimmune resistance status of the body, obvious decrease of the increased rates of allergic reactions, decrease of the levels of specific cellular sensitization to streptococcal, pneumococcal antigens, increase of the total lymphocyte content, increase of the levels and functional activity of the T and B lymphocytes, efficiency of the cytokine profile, decrease of the cytokine levels (IL-8, IL-1 β) and increased serum concentrations of anti-inflammatory cytokine (IL-4).

Conclusions. The studies presented in this review argue the need for further research into the etiopathogenesis of rhinosinusitis and cell therapy methods for the treatment of chronic inflammatory diseases of the nose and paranasal sinuses.

Key words: recurrent and chronic rhinosinusitis, cell therapy, immunological marker.

CARDIOLOGY SECTION

217. DILATED CARDIOMYOPATHY: SUSPICION OF FAMILIAL FORM

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Background. Dilated cardiomyopathy (DCM) represents an important medical problem both in the adult and pediatric population, with high rates of morbidity, mortality and hospital admissions. Genetic forms of DCM account 30–48% in adult patients; their main pattern of inheritance is autosomal dominant (56%). Early diagnosis of a genetic disorder in a family identify carriers or first-degree relatives of affected family members potentially at risk of disease and receive lifestyle modification advice, avoidance of alcohol excess, regular moderate exercise are necessary to prevent disease progression.

Case report. Family doctor referred a 62-year-old nurse with breathlessness on exertion – she is limited to 250 m, palpitations, night sweats. From history is it known that more than 10 years ago during the routine ultrasound heart examination was found slight decrease of EF-(47%). Two years later after respiratory viral infection appeared palpitations, dyspnea, on ECG - frequent ventricular premature beats. She received irregularly treatment with Amiodarone, Lisinopril with incomplete positive effect, interrupted by patient after 2 months. The condition worsened periodically with palpitation. Family history was noticed 2 case of sudden death of family members (brother at 18 y.o, sister at 13 y.o). On examination: irregular heart rate 85 b/min, BP-110/70 mm Hg. The signs of congestive heart failure were not detected. Laboratory: increased pro BNP NT (1100 ng/ml). ECG - sinus rhythm with 78 b/min, left shift deviation, frequent ventricular extrasystoles. ECoCG - severe enlargement of left ventricular diameter, moderate- left atrium, LV ejection fraction is severely reduced (13%), mitral regurgitation IV, tricuspid – II degree. Holter-ECG monitoring - frequent ventricular extrasystolies, four episodes of unsustained ventricular tachycardia.

Conclusions. This 68-years-old female developed clinical features of cardiomyopathy at middle age. Were not identified the secondary causes of disease but were established 2 unexplained sudden death (< 35 years) at first degree relatives that suggest the genetic origin of disease. Is recommended genetic screening of patient and here relatives to provide more information of possible variants involved in the pathogenesis of DCM in this case. Genetic counseling is necessarily to identify the early symptoms in family members and to supervise people with high risk, especially female during pregnancy. Patient should continue treatment with b-blockers, ACE inhibitors and diuretics.

Key words: Dilated cardiomyopathy, genetic form, management.

218. INTRARENAL HEMODYNAMICS AND LEFT VENTRICULAR REMODELING IN ARTERIAL HYPERTENSION

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Introduction. In the last decades, a great attention were paid to the identification of early markers of asymptomatic target organ damage, such as left ventricular hypertrophy and remodeling in arterial hypertension, as they allow early evaluation of global cardiovascular risk.

Aim of the study. The aim of our study is the evaluation of the association of intrarenal hemodynamics with ambulatory blood pressure values, left ventricular geometry and left ventricular remodeling.

Materials and methods. The population of our study were 62 patients (30 females and 32 males, mean age 45.4 years +/- 9.2 years) with grade I-III arterial hypertension. In all of the subjects careful clinical history and physical examination were performed. Blood pressure was recorded following the recommendations of the 2018 European Society of Hypertension/ European Society of Cardiology Guidelines. All participants underwent a complete echocardiographic study, ambulatory blood pressure monitoring and color Doppler echography of renal and intrarenal arteries. After the renal Doppler wave form was obtained, the renal resistive index (RRI) was calculated by peak systolic velocity (S) and lowest diastolic velocity (D) with the formula $S-D/S$. In the last decades a great attention was paid to the identification of early markers of asymptomatic target organ damage, such as left ventricular hypertrophy and remodeling in arterial hypertension, as they allow early evaluation of global cardiovascular risk.

Results. The mean renal resistive index (RRI) was 0,685 ($p<0.01$), mean ambulatory systolic blood pressure (SBP) was 135.6 mmHg, mean ambulatory diastolic blood pressure (DBP) was 77 mmHg, (mean daytime SBP 141.96 mmHg, DBP 82.07 mmHg, mean nighttime SBP 128.67 mmHg, DBP 71.92 mmHg). The mean pulse pressure (PP) was 59.1 mmHg. RRI was negatively related to ambulatory DBP ($r=-0.339$, $p<0.05$), heart rate ($r=-0.326$, $p<0.01$) while it was positively associated with ambulatory SBP ($r=0.659$, $p<0.05$), ambulatory PP ($r=0.366$, $p<0.01$), age ($r=0.253$, $p<0.01$), left ventricular mass (LVM) ($r=0.459$, $p<0.001$) and relative wall thickness (RWT) ($r=0.493$ $p<0.01$), remaining statistically significant even after adjustment for various confounding factors in stepwise multiple linear regression analyses. Higher RRI values were associated with concentric hypertrophy ($RWT>0.42$) vs. eccentric hypertrophy ($RWT\leq 0.42$) of the left ventricle ($p<0,05$). When multiple regression analysis was used, SBP ($p<0.01$) and LVM ($p <0.05$) remained significant predictors of RRI.

Conclusions. In hypertensive patients RRI, which is considered an expression of arterial impedance, has a good correlation with the blood pressure values, left ventricular geometry and left ventricular remodeling. These may suggest that RRI, provides a noninvasive parameter in the evaluation of the patients with arterial hypertension. Thus, the evaluation of the RRI could facilitate the prediction of early cardiovascular damage and provide a fair assessment of the cardiovascular risk.

Key words: arterial hypertension, renal resistive index, left ventricular remodeling

219. PALLIATIVE CARE FOR A PATIENT WITH HEART FAILURE

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Background. Despite growing need for palliative care for patients with advanced heart failure, many challenges exist to making effective palliative care interventions available. Little data exists on heart failure patients who receive palliative care, and there are only a handful of studies examining which palliative care interventions are effective in heart failure.

Case report. We present a case of 50 years old man admitted at our department with signs of advanced heart failure. Physical examination attested a severe peripheral edema, a tensionate abdomen with an enlarged liver with a 75 heart beats/min with a arterial tension about 85/55 mmHg. His cardiac problems started at his 34 years old when multiple paroxysmal attacks of atrial fibrillation were detected, sinus rhythm were assessed by multiple electrical cardioversions (2002-2004). In 2004 was made a procedure of ablation near the paradisiac region of right atrium. Next years (2011-2012) due to the progressive signs of heart failure and atrial asystole detected at ECG-Holter monitoring accompanied by severe bradycardia, a permanent pacemaker was implanted in VVIR pacing mode. In parallel his echocardiogram showed normal dimensions of left and right ventricles, but a progressive severe enlargement of both atrial chambers with a progressive worsening of mitral and tricuspid regurgitation, ejection fraction of left ventricle was about 30-35%, severe pulmonary hypertension. In 2013 was made an annuloplasty of mitral and tricuspid valves. Also due to instability of heart rhythm and uncontrolled heart rate, the pacing mode was switched to AAIR mode, then to DDDR, and then again to VVIR pacing modes. At the moment of presentation his echocardiogram showed a severe dilatation of right and left atrial chambers, right ventricle, a mild enlargement of left ventricle, with a severe diffuse reduction in ejection fraction (12%), a mild to moderate mitral and tricuspid regurgitation and a severe pulmonary hypertension. Coronary angiogram showed non-obstructive coronary lesions. His medical treatment consisted of standard medication of heart failure, intensive diuresis, medication of pain and antidepressants. Interventional treatment included a few sessions of thoracocentesis, decompression of thoracic lymphatic duct, drainage of ascetic fluid and peritoneal lavage.

Conclusions. In the setting of echocardiographic data of the presented patient and arrhythmic events it's hard to make a differential diagnosis between tachycardia-mediated cardiomyopathy and dilated cardiomyopathy. Prognosis of such case is uncertain and the difference between curative and palliative treatment is not well defined. But, still, the emerging role of palliative care is driven from improving quality of life for patients with end-stage congestive heart failure.

Key words: palliative care, heart failure, quality of life

220. TECHNICAL ASPECTS RELATED TO CARDIAC ELECTRONIC DEVICES IMPLANTATION

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Background. Cardiac electronic devices implantation is one of the most common types of heart surgery carried out, with thousands of devices fitted each year across the world. Because of anatomical and physiological features, patient's preferences, predicted complications sometimes it is difficult to choose the optimal technique.

Case report. Case 1. An 18 years old female with cardio-inhibitory syncope with episodes of asystole (till 15 seconds) was admitted for DDD pacemaker implantation. Because of young age the cosmetic issue of the scar was discussed with the patient. We proposed classical, subpectoral, submamary approach and also prepectoral approach with the incision in plica axillaries. The patient chose the approach with the cosmetic scar that mimics plica axillaris. Case 2. A 58 years old female having levocardia and dextraposition with second degree sinoatrial block and syncopes was admitted for DDD pacemaker implantation. The non-dominant right side was chosen for implantation. We tried to puncture axillary vein initially but because of anatomic challenges, the leads were advanced via right subclavian vein. During procedure was confirmed the diagnosis of levocardia and dextraposition, the leads were implanted without complications. Case 3. A 63 years old male patient with a long cardiologic history of myocardial infarction, complicated with intrastent thrombosis, apical aneurism formation. The ejection fraction was 20% and for the primary prevention of sudden cardiac death the patient was admitted for ICD implantation. Because of presence of apical aneurism we decided to implant the lead in the midseptum. The procedure was without complications. Case 4. A 79 years old female patient with third degree atrioventricular bloc was admitted for the implantation of pacemaker. The procedure was complicated with pericardial effusion (6-7 mm). The patient was under supervision in ICU for one night, after that a diuretic and ibuprofen were prescribed. After 2 days of therapy the effusion level was about 2 mm. The patient was given treatment ambulatory for 2 weeks, on the control cardiac ultrasound there was no effusion in pericardium.

Conclusions. Despite the fact that CEID implantation is an ordinary mininvasive operation, there are some cases when the specialist requires flexibility and interaction with the patient to choose the optimal tactics. It is important not to forget about the complications that may require longer hospitalization and high costs.

Key words: Pacemaker, features, implantation.

221. FIRST EXPERIENCE WITH CRYOBALLOON ABLATION FOR ATRIAL FIBRILLATION IN REPUBLIC OF MOLDOVA

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Introduction. Pulmonary vein isolation is an established therapy for symptomatic atrial fibrillation (AF). The second generation cryoballoon is effective in achieving pulmonary vein isolation. In 2018 we implemented the cryoballoon ablation (CBA) in Republic of Moldova.

Aim of the study. To assess the freedom from AF recurrence after CBA.

Materials and methods. A retrospective study was performed in 8 consecutive patients who underwent CBA using Arctic Front Advance cryoballoon (Medtronic) for paroxysmal or persistent AF from June 2018 till December 2019 in Medpark International Hospital. We followed up the patients from June 2018 till March 2020. The information about the clinical symptoms and ECG data during follow-up was collected to identify the presence of recurrence. A recurrence after CBA was considered AF episode that lasted at least 30 seconds. Continuous variables are presented as mean \pm SD. Kaplan–Meier analysis was used to determine the probability of freedom from AF during follow-up.

Results. A total number of 8 patients with a mean age of 60.13 ± 6.88 years with paroxysmal ($n=7$; 87.5%) or persistent ($n=1$; 12.5%) AF were identified. There were 6 males (75%) and 2 females (25%). All patients had a successful pulmonary vein isolation procedure with 100% of veins isolated. No patient had complication during procedure as phrenic nerve palsy, stroke or pericardial effusion. After a 3-month blanking period during a mean follow-up of 337 ± 135 days there were 2 (25%) AF recurrences. One patient developed atrial flutter but not AF in the follow-up period with restoration of sinus rhythm with electrical cardioversion. The average days before recurrence was 120.5 ± 41.72 (150 and 90). Freedom from AF recurrence was 75% at 11,2 months follow-up.

Conclusions. The second generation cryoballoon ablation is an effective method of treatment for atrial fibrillation. Our results are compatible with the success rate that is reported by majority of the studies.

Key words: Ablation, atrial fibrillation, cryoballoon, pulmonary vein isolation.

222. DILATED CARDIOMYOPATHY IN A PATIENT WITH ACROMEGALY – ASSOCIATION OR CAUSALITY

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Background. Acromegaly is a rare endocrine disorder that carries a significant burden of cardiovascular morbidity and mortality. Abnormalities of the growth hormone/insulin-like growth factor-1 (IGF-1) axis in acromegaly lead to the characteristic cardiovascular

manifestations. One hallmark feature of the disease is acromegalic cardiomyopathy; a syndrome of progressive cardiac dysfunction characterized by left ventricular (LV) hypertrophy, diastolic dysfunction, and combined systolic and diastolic dysfunction in advanced stages. Dilated cardiomyopathy (DCM) is relatively rare in this setting but is associated with increased mortality.

Case report. We report the case of a 44 y.o man who was admitted to the cardiology department because of progressive dyspnea on exertion and paroxysmal nocturnal dyspnea with recent onset. Physical examination revealed systolic murmurs in mitral and tricuspid areas and jugular vein distension. Laboratory findings showed moderate hepatic cytolysis. Electrocardiogram showed sinus rhythm (SR) and LV hypertrophy. Echocardiography revealed DCM with severe LV dysfunction (LV ejection fraction (LVEF) = 20%), LV hypertrophy, restrictive diastolic dysfunction, biatrial enlargement, moderate mitral regurgitation and pulmonary hypertension (systolic pulmonary artery pressure (PAPs) = 60 mmHg). A coronary angiography was performed to rule out coronary disease. It revealed normal coronary arteries. Optimal heart failure (HF) treatment was started. The patient did not attend follow-up visits. Ten years later, he presented with NYHA class III HF symptoms. Mandibular enlargement with widened space between the lower incisor teeth, macroglossia, enlargement of his hands and feet over the last 10 years was noted on physical examination. Laboratory findings revealed hepatic cytolysis and elevated NT-proBNP (9668 pg/ml). Electrocardiogram identified atrial fibrillation. Echocardiography showed dilated cardiomyopathy with further deterioration of LV function (LVEF=15%) and pulmonary hypertension. Magnetic resonance imaging showed non-specific LV myocardial fibrosis. Genetic tests, carried out to exclude a genetic DCM (170 genes evaluated), did not identify any pathogenic variants. At this point an endocrinology evaluation was requested. It revealed active acromegaly (IGF-I = 416 ng/ml) due to pituitary microadenoma. Considering a high surgical risk, conservative treatment with somatostatin analogue was initiated. Follow up at 5, 10 and 18 months revealed improved clinical status, spontaneous restoration of SR, progressive improvement in LVEF (30%, 33% and 40%), normalization of PAPs and of NT-proBNP = 186 pg/ml.

Conclusions. Here we report the case of a patient with acromegaly and severe non-ischemic DCM. Treatment with somatostatin analogue resulted in early improvement of clinical status and LV systolic function sustaining a probable causal relation between endocrinological dysfunction and DCM. This is a one of the few reported cases of acromegalic DCM with significant improvement under somatostatin analogue therapy as an initial option.

Key words: acromegaly , dilated cardiomyopathy , acromegalic cardiomyopathy

223. LEFT ATRIAL ENCAPSULATED THROMBUS IN A NON-COAGULATED PATIENT WITH SEVERE MITRAL STENOSIS

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Background. Rheumatic mitral stenosis (MS) is associated with left atrium (LA) thrombus in patients in sinus rhythm (3 % – 13 %) and markedly increases in atrial fibrillation (~33 %). The presence of LA thrombus carries a risk of systemic embolization and neurologic morbidity.

The discovery of a massive thrombus through echocardiography obliges the clinicians to strategies for secondary prevention of thromboembolic events. The main line of actions of stroke prevention in cardioembolism is mostly connected with antithrombotic drugs, but also other, more invasive. Certainly, surgery is the best solution for a successful prognostic.

Case report. We present a case of a non-anticoagulated 56-year-old woman with severe MS. She was admitted to cardiology department with dyspnea, palpitations and fatigue. Anamnesis: 10 years of atrial fibrillation (AF) and 7 years with arterial hypertension. Physical examination revealed an irregular pulse, at a rate of 76 beats/min. The ECG revealed an atrial fibrillation with a rate 75-100 b/min. ECHOCG - revealed a severe MS (V max 2.9 m/s, GP max – 33.8 mm/hg, area – 0.5 cm²) with third degree mitral regurgitation and LA thrombus (90*80 mm), fixed to the upper and rear wall of the LA, third-degree tricuspid regurgitation. Left atrium was enlarged (59 mm), severe pulmonary arterial hypertension. The preoperative coronarography showed the absence of any sign of atherosclerosis. The patient was referred to cardiac surgery for correction of valvular pathology. Cardio-surgical intervention was performed: mechanical MV prosthesis ST – JUDE MED 27, DEVEGA-CABROL tricuspid annuloplasty, removing the massive encapsulated thrombus (90*80 mm) from the LA with the origin into the left appendage, obliterating the pulmonary veins, then - surgical closure of the left atrial appendage. After surgery, the patient had recovered well without any neurologic dysfunction in the postoperative period.

Conclusions. The risk of cardioembolic complication to the patient with severe mitral valve stenosis is very high and depends on age and the presence of other comorbidities. Anticoagulant treatment in patients with severe MS and AF is paramount, cessation of anticoagulant treatment leads to serious complications such as stroke. In our case, the size and organized nature of the thrombus, prevented embolization into the systemic circulation, but in other cases the risk is very high. In the era of open-heart surgery and of mitral valve replacement, the prognosis for most patients with valvulopathies, especially those with rheumatic etiology is excellent.

Key words: mitral stenosis, thrombus, anticoagulation, surgery

224. CLINICAL AND INTERVENTIONAL KEY POINTS IN PATIENTS WITH MYOCARDIAL BRIDGES

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Introduction. Myocardial bridges, parts of cardiac tissue that cover some parts of subepicardial coronary artery. It is important to study their morphological and clinical aspects, because of their possible implication in the genesis of the coronary hemodynamic changes.

Aim of the study. To determine the incidence of myocardial bridges detected by coronary angiography, their clinical features and management peculiarities.

Materials and methods. We have retrospectively analyzed 6168 cases of diagnostic angiography and coronary angioplasty between 2013-2019. Myocardial bridges were detected in 357 cases (4,9%). For the study of the clinical aspects of patients with myocardial bridges, only cases of angiography with myocardial bridges and coronary arteries with mild or without

atherosclerotic lesions were selected – 226 cases. The complications and difficulties of the interventional procedures in the presence of myocardial bridges and severe coronary atherosclerotic lesions have been studied in a group of 131 patients.

Results. Preferential localization of the myocardial bridges (97% of cases) was on the anterior interventricular artery, 1,81% - on the diagonal branch, in 0,9% of cases – on posterolateral and marginal branches, 0,6% - on the right coronary artery, and 0.3% along the circumflex artery. In the detected cases, the degree of arterial systolic stenosis exceeded 75% were described in 16% of cases, 50-75% in 36% and in 46% of cases the stenosis was below 50%. In 48% of cases the stress test was considered as typical positive in patients with myocardial bridges with documented myocardial ischemic change on ECG and without severe coronary atherosclerotic stenosis. There was no interdependence between the degree of stenosis caused by the bridge and the degree of ST-segment depression in the effort test. In the conducted study, only in 3 cases, the reason for hospitalization for diagnostic coronary angiography was acute coronary syndrome in the arterial territory covered by a myocardial bridge. In 9 cases, due to myocardial ischemia caused by the myocardial bridge, revascularization by aortocoronary bypass was recommended. In 6 cases the arterial portions under the bridge were stented with mechanical compression and deformation of the installed stent after 3 months in 3 cases. Within the group of patients with severe atherosclerotic coronary lesions and myocardial bridges who need PCI, in 6 cases, due to coronary deformation at the entrance under the bridge, the stent crossing was difficult in the respective segment. In 14 cases, the presence of the bridge and the entrance of the distal end of the stent under the myocardial bridge when stenting the proximal to bridge atherosclerotic lesions, induced prolonged coronary spasm or coronary dissection.

Conclusions. Although no correlation between the degree of compression caused by the bridge and the degree of myocardial ischemia has been established, myocardial bridges could cause myocardial ischemia by possibly an addition to the mechanical action on the artery under the bridge of the coronary spasm, determining thereby acute coronary syndromes. The treatment of patients with significant myocardial bridges with recurrent ischemia on optimal drug therapy would preferably be by coronary bypass due to the mechanical action of the myocardial bridge on the coronary stents. Coronary stenting with penetration of the stent distal end under the myocardial bridge may be associated with coronary dissection, coronary spasm and/or mechanical deformation of the stent.

225. AN UNUSUAL CASE OF CONGENITAL TRICUSPID VALVE ANOMALY

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Background. A 38 years old man is presented with acute onset with dyspnoea for 2 months. From anamnesis is known that he suffered 10 years ago a car accident complicated with multiple fracture. Patients is unknown with cardiac pathology and he does not use any medication.

Case report. Upon arrival at the emergency department, his vital signs were: blood pressure 120/80 mmHg, heart beat 70 beats/min, body temperature 36.7 C and O₂ saturation 98 %. Electrocardiography (ECG) registered right bundle branch block. Initial laboratory data didn't

revealed any abnormalities. Transthoracic ECHO CG, which was performed when the patient arrived at the hospital, showed normal ejection fraction (EF- 57 %), severe dilated right heart chambers and severe tricuspid regurgitation with suspicion of rupture of septal leaflet. As well, heart MRI was made to establish cardiac diagnosis. Heart MRI registered: Dysplasia of the septal cusp of the tricuspid valve. Severe tricuspid valve regurgitation (regurgitation volume – 110 ml, regurgitation fraction – 55%). Right ventricle is severely dilated, global systolic function normally. Right atrium severe dilated. Was made differential diagnosis between posttraumatic rupture of tricuspid valve and congenital tricuspid valve anomaly. The patient was consulted by cardio-surgeons and was disassembled heart intervention for the Tricuspid Valve repair. During the intervention was noticed severe dilated ring of Tricuspid Valve (65 mm). Posterior leaflet with rupture of chordae, septal leaflet pasted by sept with abnormal attached of chordae. The anterior leaflet with abnormal big dimension and total prolapse in the right atrium. Foramen ovale patent. A tricuspid valve anomaly was confirmed. There was made Tricuspid Valves repair with implantation of the ring. Due to severe dilatation of the ring of Tricuspid Valve it wasn't possible to apply a classic method of Tricuspid Valve repair. Two techniques were combined to solve our patient's problem. The annuloplasty was made by Kay technique, the posterior leaflet was completely excluded, and a functional bicuspid valve is finally obtained. After that was stitched together the middle point of the free edges of the tricuspid leaflets by Alfieri technique. In cases of severe annular dilatation, annuloplasty alone is unlikely to be durable so an additional procedure, such as "clover technique," was used to obtain a more durable repair. On ECHO made in dynamics was revealed Tricuspid Regurgitation of second degree with persisting severe dilatation of right chambers. The dyspnoea after surgery improved and the patient was discharged after 5 days post - surgery.

Conclusions. Tricuspid valve disease affects millions of patients worldwide. It has always been considered less relevant than the left-side valves of the heart, but still represents a great challenge for the cardiac surgeons, especially in the most difficult symptomatic scenarios. When possible, valve repair still remains the most useful procedure, while replacement is generally preferred in the most demanding cases. Only the accurate choice of the most appropriate procedure will provide optimal and long-term results.

Key words: Tricuspid Valve Anomaly, Valve Repair, Congenital Anomaly

226. ACUTE PULMONARY THROMBEMBOLISM ON THE BACKGROUND OF PULMONARY ASPERGILLOSIS

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Background. Invasive pulmonary aspergillosis is a severe fungal infection with a high mortality rate. Diagnosis is challenging due to the non-specific nature of symptoms. Allergic bronchopulmonary aspergillosis (ABPA) complicated with pulmonary thromboembolism (PTE) is rare. This report describes a patient who was diagnosed with ABPA and soon developed PTE, for which he was admitted to our department. In the recent years, ABPA has become more and more common clinically, especially in patients with cystic fibrosis or asthma, which can lead to irreversible bronchiectasis, pulmonary fibrosis, and even death. The common complications of ABPA include recurrent exacerbations, bronchiectasis, and acute respiratory

failure. It is generally believed that, however, pulmonary thromboembolism (PTE) is a rare complication of ABPA. We describe here the case of a young man with ABPA who was admitted to hospital because of PTE after recurrent treatments for aspergillosis.

Case report. A 40-years old man was hospitalized in our department for “Acute pulmonary thrombembolism at the level of big pulmonary vessels (pulmonary artery trunk) involving acute pulmonary heart disease”. The patient was earlier diagnosed with Pulmonary aspergilosis, for which he received a specific treatment 4-5 months ago with anti-fungic drugs-Itriconazol, in Phthisiopulmonology Institute "Chiril Draganiuc". At the time of admission, the patient presented the following accusations: moderate permanent dyspnea that does not depend on physical effort, rare hemoptysis, weakness. No tuberculosis or asthma was reported, neither other pathologies with immunosuppression. The patient had a 20-year smoking history with 20-30 cigarettes per day. Vital signs in the emergency department were temperature 36,7°C, blood pressure 110/70 mm Hg, heart rate 82 bpm, respiratory rate 19/min, and oxygen saturation 94% on room air. Auscultation showed a widespread audible expiratory wheeze on both upper lungs and moist rales on both lower lungs. Breathing sound was low and the patient had the symptom of expiratory dyspnea. Previous laboratory findings showed serum Apeergillus IgE levels of 1277 UI/mL (ULN<100.0) and positive A. fumigatus IgG =154mg/L (ULN<39). Sputum culture was performed and A. fumigatus grew. The result of the D-dimer test was 435 µg/L (ULN 500µg/L). However, chest angiography revealed filling defects in the main pulmonary artery and both branches of the pulmonary artery, indicating the occurrence of PTE. 1 day later, the D-dimer tests had higher values and eosinophilia in addition. At EchoCG examination: Pronounced dilatation of the right atrium and right ventricle. Severe pulmonary hypertension (pulmonary artery = 28mm; pulmonary artery pressure = 81mmHg). Ejection fraction = 56%. Congenital heart defect - ostium secundum=6mm.The patient was diagnosed with PTE and received treatment of low molecular heparin (0.8mL every 12 hours for 7 days) and Warfarine (5mg once per day). Symptoms gradually improved and the patient was discharged with continued anticoagulant treatment.

Conclusions. 1. ABPA is a chronic disease with a relapsing remitting course, and the prognosis can be improved by early diagnosis and treatment. 2. ABPA complicated with PTE is extremely rare. 3. Consequently, much more attention should be paid to the ABPA patients with the associated risk factors and/or those who are not responsive to antifungal treatment in consideration of the life-threatening severity of PTE. 4. Since PTE is a life-threatening disorder, clinicians should consider PTE in patients with ABPA, especially in patients who suddenly had symptoms such as dyspnea or ineffective use of antifungal and hormonal drugs. It is important to assess the additional risk of PTE in ABPA patients, and patients at high-risk of PTE should receive prophylactic treatment, unless they have contraindications.

Key words: allergic bronchopulmonary aspergillosis, aspergillus, pulmonary thromboembolism, anticoagulant therapy.

227. RIGHT VENTRICULAR VOLUME OVERLOAD AT A PATIENT WITH ATRIAL SEPTAL DEFECT, CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND SUBSEGMENTAL PULMONARY EMBOLISM

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Background. Most cases of RV failure follow existing or new-onset cardiac or pulmonary diseases or a combination of both, which may increase RV afterload, reduce RV contractility, alter RV preload or ventricular interdependence.

Case report. A 71-year-old man was noted to be having shortness of breath. The electrocardiogram shows – sinus rhythm, heart rate 90 bpm, vertical heart axis, tall P wave and incomplete right bundle branch block. At Echocardiographic examination of the heart: severe dilatation of the right heart chambers, right ventricular systolic dysfunction, abnormal septal motion with D-shaped left ventricle, severe tricuspid regurgitation and severe pulmonary hypertension. All these ECG and EchoCG features are suggestive of right ventricular overload. Having elevated 5 times elevated D-dimers, first we have suspected a pulmonary embolism. Pulmonary angioCT reflect a subsegmental pulmonary embolism complicated with infarction-pneumonia. Also the spirometry indicates severe obstruction with hyperinflation. A further EchoCG investigation from an intermediate Echo window denotes an atrial septal defect “sinus venosus”~ 10 mm. The patient has been discharged with recommendation to visit a cardiac surgeon and to follow prescribed treatment with bisoprolol, spironolactone, losartan, torasemide, isosorbide mononitrate, warfarin, inhalator corticosteroids and antibiotics.

Conclusions. Our patient has two important diseases that can cause the right heart failure: first is the atrial septal defect with bidirectional shunt, which leads to chronic volume overload and RV dilation and the second is chronic obstructive pulmonary disease (COPD) which is the most prevalent cause of respiratory insufficiency and cor pulmonale. At this patient, also an additive effect to right heart failure has the subsegmental pulmonary embolism.

Key words: right heart failure right heart overload atrial septal defect chronic obstructive pulmonary disease pulmonary hypertension

228. DYSRHYTHMIA IN PATIENTS WITH ATRIAL SEPTAL DEFECT

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Background. Atrial septal defect (ASD) accounts for 13% of congenital heart disease (CHD), with an incidence of 2 cases per 1000 live births [Vick G.W., 2017]. Until adulthood, ASD are usually asymptomatic, with further development of complications, more frequent atrial dysrhythmias and paradoxical embolization. Atrial tachyarrhythmia, including atrial fibrillation and atrial flutter, are detected preoperatively in approximately 20% of adults with

ASD. In the case of plastics made after 40 years, the postoperative risk of association with atrial fibrillation or flutter may occur [Webb G., 2006];. Late complications of large ASD may be: right ventricular dilatation, tricuspid regurgitation, right heart failure, and pulmonary hypertension, which may become irreversible and lead to the development of Eisenmenger syndrome [Connolly H., 2017];.

Case report. Study of rhythm disorders in an adult patient with atrial septal defect. Patient X, 42 years, woman, was admitted to the surgery department of congenital heart malformations at the Heart Surgery Center, the Republican Hospital "Timofei Moşneaga" for investigations and subsequent evaluation of the surgical correction of CHD. Internal charges: dyspnoea at rest, fatigue, palpitations at physical exercise, peripheral oedema, pain in the right hypochondria, bloated feeling. From anamnesis: is considered sick from childhood, she had reduced exercise tolerance, frequently endured respiratory infections. Palpitations and fatigue occurred during the last 10 years, but did not contact the doctor. In 2018, after pneumonia, paroxysms of tachyarrhythmia appeared, which led to appearance of symptoms and signs of heart failure, which conditioned the address to the family doctor and the cardiologist from the district, which suspected CHD, after investigation and referred she to cardiovascular surgeon. At the objective examination: severe general condition, pale-pink teguments, acrocyanosis, peripheral oedema, cardiomegaly, systolic cardiac murmur in the left parasternal region, increased II heart sound on the pulmonary artery, hepatomegaly. Pulse oximetry: saturation with O₂ - 85%. Paraclinical investigations. Electrocardiogram: Atrial fibrillation with heart rate 150-85 b / min. Right axis deviation. Signs of right ventricular hypertrophy. Chest X-ray: pruning of peripheral pulmonary vessels, pulmonary wires with signs of pulmonary hypertension, elevated cardiac apex due to right ventricular hypertrophy, prominent pulmonary outflow tract, cardiothoracic index - 50%. Echocardiography: dilation of the right atrium and right ventricle, left ventricle at the lower limit of the norm; ASD "ostium secundum" with left-right jet, a ASD of the type "superior venous sinus" is not excluded; pulmonary artery dilated at ring and trunk, systolic pulmonary artery pressure increased - 70 mm Hg; in the pericardium 2-3 mm of fluid around the heart. Cardiac catheterization: atrial septal defect with left-right shunt, severe pulmonary hypertension. Clinical diagnosis: Congenital heart disease, atrial septal defect "ostium secundum" with left right jet. Severe pulmonary hypertension. The patient was prepared preoperatively and performed the surgical correction of the malformation, with the improvement of the postoperative condition, but with the prescription of the antiarrhythmic drugs due to the irreversible dysrhythmias due to the remodeling of the heart.

Conclusions. In patients with ASD commonly develop supraventricular cardiac dysrhythmias (in 1/5 of patients) including atrial fibrillation, atrial flutter, and premature atrial and junctional contractions. Late ventricular disorders can develop, which can be fatal, caused by pulmonary hypertension and VD dilation. Early surgical correction will prevent cardiac remodeling and the development of dysrhythmias.

Key words: Atrial septal defect, dysrhythmias, congenital heart disease.

229. FACTORS WHICH INFLUENCE MORTALITY IN PATIENTS WITH INFECTIVE ENDOCARDITIS

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Introduction. Infective Endocarditis (IE) is a severe rising incidence pathology with high mortality. The incidence of IE is 3-10 cases per 100,000 people/year. The most common complications in IE that lead to death are: Congestive Heart Failure (CHF) - 33.4%, stroke 17.9%, and embolic events - 34.3%. Early and adequate initiation of antibiotic therapy significantly reduces mortality by 25-50%, and the frequency of embolic events in 13 patients out of 1,000 in the first week of treatment and 1.2 to 1,000 after two weeks of appropriate treatment, and early surgery can improve the evolution of EI. with an estimated overall survival of $74.8 \pm 4.1\%$ at 10 years. Despite improvements in the diagnosis, treatment and management of EI, the pathology remains associated with severe complications and high mortality.

Aim of the study. The purpose of the research is: to evaluate the factors which influence mortality in patients with Infective Endocarditis in Republic of Moldova.

Materials and methods. There were retrospectively evaluated 161 patients with clinically definitive diagnosis of IE according the Duke and J. Li criteria, admitted between 2013 - 2019 at the Institute of Cardiology and Municipal Hospital „Holy Trinity”, Chisinau, Republic of Moldova. Patients were divided in two groups deaths (D) 31 (19.3%) and alive (A) 130 (80.7%). The following characteristics were studied: age, gender, type of IE, injection drug use, Diabetes Mellitus, haemoculture, presence of *Staphylococcus aureus*, vegetations and their features, C-reactive protein, ASL-O, left ventricular ejection fraction and other complications. Data collection was based on the review of available medical charts, reports from the echocardiography laboratory, and accessible valve surgery reports during the study period. Data analysis was performed with statistical software Epi Info (CDC, Atlanta, ver. 7.2.2.16). Odds Ratio (OR) is used to estimate the strength of the association between risk factors, and outcomes of mortality, so $OR > 1$ means that the risk of the outcome is increased by the exposure. Variables were compared using two-tailed t-test and statistical significance was defined by $p \leq 0.05$.

Results. The most affected age in both groups was 45-64 years, 51.6% for group D, and 56.2.4% for group A, with a mean age of 57.7 ± 12.3 years for group D and 51.3 ± 13.7 years for group A. Nevertheless, the cases of death exceeded in group >65 years 29% vs 16.9% (OR 2.0; 95% CI, 0.82-4.94; $p = 0.124$). In both groups prevailed men with 64.5% and respectively 76.2%, but it is observed an increase of prevalence to 35.5% for women in group D (OR 1.8; 95% CI, 0.76-4.06; $p = 0.184$). Acute onset IE was more frequently in group D 41.9% vs 37.7 in group A (OR 1.2; 95% CI, 0.54-2.65; $p = 0.890$), as well prosthetic valve IE (PVIE) 16.1% vs 12.3% (OR 1.4; 95% CI, 0.46-4.07; $p = 0.570$). Diabetes mellitus predominated in group D 29% vs 12.3% in group A (OR 4.0; 95% CI, 1.51-10.7; $p < 0.05$). Blood culture was positive in 51.6% of patients in group D and 23.8% in group A (OR 3.4; 95% CI, 1.51-7.67; $p < 0.05$), and prevailing in both groups *Staphylococcus aureus* (OR 4.4; 95% CI, 1.47-13.42; $p < 0.05$) and

Staphylococcus epidermidis (OR 4.7; 95% CI, 1.09-19.83; $p < 0.05$) as pathogens. We observed in both groups vegetations in more than 70% of patients, but in the group D, 19.4% vs 14.6% were affected more valves, with predominating in group D middle size vegetations 32.3% vs. 23.1% (OR 1.6; 95% CI, 0.67-3.73; $p = 0.287$) and big size 12.9% vs 6.9% (OR 1.9; 95% CI, 0.57-6.95; $p = 0.272$). The most affected valves in group D was the tricuspid one 12.9% vs 11.5% (OR 1.1; 95% CI, 0.35-3.69; $p = 0.832$). Group D had an increased rate of CHF 61.3% vs 53.8% NYHA class III (OR 1.4; 95% CI, 0.61- 3.02; $p = 0.453$) and class IV 25.8% vs 10.8% (OR 2.9; 95% CI, 1.08-7.66; $p < 0.05$). Embolic events occurred in 61.3% in group D and in 14.6% of patients in alive group (OR 9.3; 95% CI, 3.87-22.1; $p < 0.001$). Also, the renal damage was higher in group D, Acute Kidney Failure (AKF) 12.9% vs 3.1% (OR 4.7; 95% CI, 1.09-19.83; $p < 0.05$), Chronic Kidney Disease (CKD) 38.7% vs 9.2% (OR 6.2; 95% CI, 2.44-15.8; $p < 0.001$). Septic shock (SS) was more frequently in group D 29% vs. 4.6% (OR 8.5; 95% CI, 2.74-26.1; $p < 0.001$).

Conclusions. According to Odds Ratio we found in our study 36 factors that can influence mortality in patients with infective endocarditis, nevertheless only 17 of them proved to have statistical significance difference. Therefore, these factors in our study were: Diabetes Mellitus (OR 4.0; 95% CI, 1.51-10.7; $p < 0.05$); positive blood culture (OR 3.4; 95% CI, 1.51-7.67; $p < 0.05$); *Staphylococcus aureus* (OR 4.4; 95% CI, 1.47-13.42; $p < 0.05$); *Staphylococcus epidermidis* (OR 4.7; 95% CI, 1.09-19.83; $p < 0.05$); Congestive Heart Failure class IV NYHA (OR 2.9; 95% CI, 1.08-7.66; $p < 0.05$); embolic events (OR 9.3; 95% CI, 3.87-22.1; $p < 0.001$) with the following clinically most important pulmonary embolism (OR 6.2; 95% CI, 2.17-17.9; $p < 0.001$), stroke (OR 3.7; 95% CI, 1.17-11.5; $p < 0.05$), Acute Kidney Failure (OR 4.7; 95% CI, 1.09-19.83; $p < 0.05$), Chronic Kidney Disease (OR 6.2; 95% CI, 2.44-15.8; $p < 0.001$) and Septic shock (OR 8.5; 95% CI, 2.74-26.1; $p < 0.001$).

Key words: cardiology, Infective Endocarditis, mortality

230. THE TREATMENT OF DYSLIPIDEMIA IS INFLUENCED BY THE GENETIC MARKERS OR NOT

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Introduction Cardiovascular disease is the leading cause of morbidity and mortality in working-age patients. In the Republic of Moldova, 59% of mortality cases are due to cardiovascular diseases. In 29.4% of the adult population, have cholesterol levels above the normal limits, the latter being associated with the increased risk of cardiovascular deaths. Atherosclerosis and its most common consequences - ischemic heart disease and stroke - are and will continue to be the leading cause of death in the world for at least 20 years. Laboratory examinations on the lipid spectrum of the rural population of the Republic of Moldova included in the CINDI study found that 32.5% of people had hypercholesterolemia. For the reduction of blood levels of total cholesterol and LDL-cholesterol, statins, bile acid sequestrants and selective cholesterol absorption inhibitors are indicated. Initiation of a drug treatment with preparations that reduce lipids in the blood can lead to possible side effects. Patient compliance

is low due to insufficient effects of medication and adverse reactions, which requires an individualized approach to increase compliance.

Aim of the study. To analyze the usefulness of genetic biomarkers in the efficiency of statin treatment of patients with dyslipidemia.

In order to carry out the study we aim to characterize clinically and paraclinically the patients with dyslipidaemia, to determine the status of genetic and non-genetic biomarkers relevant to the clinical effects and metabolism of statins. Evaluation of pleiotropic efficacy, with evidence of adverse effects of statins. Estimating the usefulness of the studied biomarkers and elaborating practical recommendations for personalizing treatment with statins.

Materials and methods. The proposed study is a multicenter prospective one (SCM Sfânta Trime, Institute of Cardiology, University Clinic of Primary Health Care), based on the primary data accumulated from the clinical, instrumental and laboratory examination of patients with dyslipidaemia, treated in the above named institutions, selected according to the criteria of inclusion and exclusion, recruited in the study by the current doctors, with the explicit consent (in writing) of the patient. Biomarkers will be estimated in the USMF Genetics Laboratory Nicolae Testemitanu, and Invitro Diagnostic Medical Center.

The data will be accumulated during the active surveillance of up to 12 months from the moment of starting treatment with statins, as well as accessing the databases of the institutions involved in the study. To be evaluated: genetic markers at the sites that encode the metabolism factors of the known statins (N-demethyl; lactone; CYP2C9, P450; 2C19; 3A4; 2D6 and those associated with adverse reactions efficacy of antilipidemic treatment, pleiotropic effects (PC-R, IL -6, TNF), early signs of adverse reactions (CK-MB, ALT, AST), clinical manifestations of statin adverse reactions. The analysis of the results of the anti-slip treatment and the pleiotropic effects will be performed according to the porting of the studied biomarkers, using the procedures of descriptive, comparative (of the subgroup media) and discriminant (the effects of the biomarkers on the lipidogram changes following the treatment).

Results. For the first time in the south-eastern region of Europe, a multilateral data-based study focusing on the problem of personalized medicine in the field will be carried out

Multiple clinical trials (JUPITER, HOPE-3, etc.) have demonstrated the clinical efficacy of antilipidemic statins and found adverse reactions as well as the lack of expected effect on most participants. At the same time, the antiatherosclerotic effects of statins lately are also explained by their action on the chronic inflammatory process, atherosclerosis being treated as a systemic vasculitis, the last aspect being studied intensely at the present moment. At the same time, the specific factors that condition the size of the antilipidemic and pleiotropic effects of statins are little studied, and their application is limited only to the advanced clinics in Western Europe.

Conclusions. We are interested to determine a set of useful biomarkers for personalizing anti-slip treatment with statins, developing an algorithm for optimizing treatment with statins in patients with dyslipidemia. For the reduction of blood levels of total cholesterol and LDL-cholesterol, statins, bile acid sequestrants and selective cholesterol absorption inhibitors are indicated. Initiation of a drug treatment with preparations that reduce lipids in the blood can lead to possible side effects. Patient compliance is low due to insufficient effects of medication and adverse reactions, which requires an individualized approach to increase compliance.

Key words: dyslipidemia, treatment, genetic markers.

231. PULMONARY COMPLICATIONS OF INFECTIVE ENDOCARDITIS: A CASE REPORT

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Background. Infective endocarditis (IE) is a severe septic disease, with the most frequent localization of the microbial graft on native or prosthetic valves, which causes serious complications and high mortality. The annual incidence of IE is 3-10 cases per 100,000 persons, with an increasing tendency in elderly patients, whereas the overall mortality, according to the Global Burden of Disease (GBD) estimates, is 1 per 100,000 persons, representing 65,000 deaths in 2013 [1,2]. The high mortality of patients with IE is mostly caused by cardiovascular, pulmonary and renal complications. Pulmonary complications occur in 10-65% of cases, more commonly in patients with right sided IE: septic pulmonary embolism, pulmonary infarction, pneumonia, pulmonary abscesses, pleural effusion, empyema, pneumothorax and fungal aneurysms of the pulmonary arteries [3]].

Case report. We report a case of a 29-year-old male patient, who was admitted to the Internal Medicine Department of „The Holy Trinity” Municipal Clinical Hospital with suspected pneumonia, investigated clinically and paraclinically, and diagnosed with Infective Endocarditis. We studied the pulmonary complications in an intravenous drug user with IE and their impact on the evolution and prognosis of the disease. At the admission the patient presented the following complaints: fever, chills, night sweats, dyspnea at minimal physical exertion, dry cough, fatigue. According to the patient’s history, the disease started 2 months ago after an infection of the right lower limb. He consulted the surgeon, but did not follow the indicated treatment. After being in cold, the fever came back 39°C and he addressed the family physician. Even after administering short-term antimicrobial treatment, the fever persisted and the patient was admitted to the Internal Medicine Department with suspected pneumonia. Antibiotic therapy was started but considering that the patient has been an intravenous drug user for 8 years, EchoCG was performed to exclude the Infective Endocarditis. Objective findings: pale, moist skin, petechiae on the upper and lower limbs, Janeway lesions. Fever 39°C. Free breathing with a respiratory rate of 24 r/min. Lung auscultation revealed a reduced inferior vesicular murmur bilaterally, wet rales. Rhythmic heart sound, S1 heart sound diminished at the apex, systolic murmur in p. IV of auscultation of the heart. Heart rate - 120 beats per minute, blood pressure - 100/70 mm Hg. Palpation revealed moderate hepatosplenomegaly. Laboratory findings. Positive blood culture, the collected *Staphylococcus aureus* sensitive to cephtriaxon, vancomycin, gentamicin, resistant to penicillins, erythromycin. EKG: Sinusal rhythm with HR - 94 b/min, vertical electrical axis of the heart, incomplete right bundle branch block. Echocardiographic conclusion: Considerable enlargement of RA (54mm), moderate enlargement of LA (46mm), RV (32mm). Large, mobile vegetation with a diameter of 20 mm on the tricuspid valve. EchoCG Doppler: EF-65%, IIIrd degree tricuspid valve insufficiency, IInd degree mitral valve insufficiency, Ist degree aortic valve insufficiency. Chest X-ray. Right lower lobe destructive pneumonia. Laboratory findings. Hemogram: microcytic anemia: Hgb - 70g/l, Red blood cells - 2.8×10^{12} , White blood cells - 11.2×10^9 , leukocytosis with polynuclear neutrophils, ESR - 64 mm/hour. Urine test: leukocyturia, RBC

in urine. The treatment with intravenous infusions of Vancomycin 2g/day (6 weeks) and i/v administration of Gentamicin 240 mg/day, antifungal medications, vitamins and aspirin improved the patient's condition by eradicating the infection and resolving the pneumonia. After being treated conservatively, the patient was consulted by the cardiac surgeon. At the moment he does not require surgical correction of the tricuspid valve.

Conclusions. Patient Y, 29 years old, an intravenous drug user, develops an Infective Endocarditis of the right side in intact valves, the source of bacteremia being the intravenous administration of the drug and also the skin infection. The febrile syndrome and the recurrent pulmonary complications, together with the auscultative changes of the tricuspid valve, anemia, leukocytosis, increased ESR led to an early diagnosis. Following the combined antibacterial treatment, according to the standard schemes, the infectious process has been definitively resolved, but the patient requires long-term monitoring and schooling regarding intravenous drug cessation and lifestyle change.

Key words: Infective endocarditis, pulmonary complications, septic pneumonia.

232. CHRONIC INFLAMMATION AS A NEW CARDIOVASCULAR DISEASE FACTOR

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Introduction. Cardiovascular disease (CVD) is a major public health problem, in most areas of the world. While traditional risk factors for the development of CVD have been researched, the science community has recently identified chronic Inflammation as an additional risk factor. Inflammation is the result of the body's immune system activity recognizing and removing harmful stimuli to start the healing process. Chronic inflammation is referred to as a long-term disorder. Chronic inflammatory disorders include diseases such as rheumatoid arthritis (RA), systemic sclerosis (SSc), systemic lupus erythematosus (SLE), ankylosing spondylitis (AS) and psoriatic arthritis (PsA) etc., which play a crucial role in the process of atherogenesis.

Aim of the study. This research was on studying cardiovascular patients, that previously have been diagnosed with a form of chronic inflammation, to show that patients with chronic inflammatory diseases are likely at high risk of developing CVD.

Materials and methods. The aim of the research consisted in studying cardiovascular patients, that have been previously diagnosed with a form of chronic inflammation, to show that patients with chronic inflammatory diseases are likely to be at a high risk of developing CVD.

Results. By studying the significant inflammatory indicators like C-reactive protein, fibrinogen, Cytokines interleukin, the helper T cells, LDL cholesterol, triglycerides, etc. and their effects on atherosclerosis we can underline the pathophysiology of atherogenesis. When the pro-inflammatory activity starts, it also commences the alteration of lipoprotein concentrations, oxidative stress, and macrophage accumulation, the injury of the endothelial and the activation of the immune system. All these factors and many others are increasing the risk of the atherosclerosis/arteriosclerosis and supported by the traditional factors they create the best conditions for the development of CVD. Patients with rheumatoid arthritis are in the

group of an increased risk of CVD; the EULAR recommendations in 2017, updated in 2019, announced that the estimated risks are multiplied by 1.5- 2 for all patients with RA. The same data was found on systemic lupus erythematosus, in which the risks increase by 2-3 times. A similarity was suggested also on psoriatic arthritis and systemic sclerosis.

Conclusions. Chronic inflammatory disorders, influenced by their pro-inflammatory effects are relevant as the new risk factors of Cardiovascular disease such as atherosclerosis, arteriosclerosis, acute coronary syndrome, etc.

Key words: Chronic inflammation; Cardiovascular disease; risk factor; atherosclerosis.

233. ANGINA PECTORIS „DE NOVO”

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Background. Angina Pectoris (AP) „de novo” represents 31% of the total patients with unstable AP. The annual incidence of AP „de novo” is 3 cases per 1000 persons, affecting mainly patients between 42-71 years old. The rate of men/women being of 66.6-80.6% compared with 19.4-33.3%. Patients present concomitant pathologies: Arterial Hypertension - 54.8%, dyslipidemia - 51.6%, Diabetes Mellitus - 29.0 % and smoking - 51.6% [3, 4, 5]. This pathology is characterized by constricting retrosternal pain at rest or at exertion, with the onset up to 30 days. Symptoms can evolve, depending on the structure of the atherosclerotic plaque, as either stable AP - 76%, or Acute Myocardial Infarction - 34 %. Both groups have been admitted to inpatient treatment in specialized Cardiology Departments [1, 2].

Case report. We report a case of a 54 year old patient, teacher, admitted in the Cardiology Department nr.3 of SMH „Holly Trinity” with the diagnosis: Unstable Angina Pectoris „de novo”. HF II NYHA. Patient presented with: constricting retrosternal pain at moderate effort and at rest, dyspnea at low physical effort, palpitations, occipital headache, dizziness, fatigue. History: the symptoms started about 3 weeks ago, when for the first time, after psychological stress, palpitations and retrosternal pain appeared. Symptoms have diminished after the rest. The pain reappeared after low physical effort (walking 10-15 m), after smoking, after cold exposure and excessive coffee consumption. The patient went to the family doctor and he was urgently admitted to the cardiology department to establish the diagnosis and to choose the appropriate treatment. Risk factors: aggravated family history, smoking, dyslipidemia, hyperuricemia. Objective data: moderate severity. The skin is pink, clean. Pulmonary auscultation: there is vesicular murmur, murmurs are absent, RR - 22 b / min. The apex beat is determined in the V intercostal space, on the left of the medioclavicular line. Rhythmic cardiac noises with HR 100 beats/min, BP - 130/90 mm/Hg. The abdomen is soft, painless at palpation. The liver and spleen are not palpable. Intestinal transit present. Giordano sign – negative bilaterally. Osteo-articular system – no pathologies. Paraclinical examination: ECG – Sinusal tachycardia with HR 106 beats/min. Left axis deviation. Signs of hypertrophy of the LV myocardium. Echocardiographic conclusion: Induration of the ascending aorta walls. Moderate dilatation of LA, RA. Moderate hypertrophy of LV. Insufficiency of the VTr., VM gr.II, VAP gr. I. Moderate HTP. Laboratory analysis: Hemoleucogram: Hb. - 146 g/l, RBC - 4.6x10¹²/l, WBC - 5.8 x10⁹, SR - 25 mm/h. CK-MB - 20, Troponines - negative, glucose - 4.9 mmol/l,

cholesterol - 6.0 mmol/l, triglycerides - 1.44 mmol/l, LDL - 4.0, HDL - 1.31, urea - 6.0 mmol/l, creatinine - 79 mmol/l, total bilirubin - 10.2 mmol/l, bound bilirubin - 2.0 mmol/l, free bilirubin - 8.2 mmol/l, ALAT - 40 U/l, ASAT - 30 U/l. Treatment: Fraxiparin 0.6 s/c, Sol Isosorbide dinitrate 10 mg i/v lineomat infusion, Sol Meldonium 500 mg i/v, Ramipril 5 mg/day, Bisoprolol 5 mg/day, Rozuvastatin 10 mg/day, Adenuric 40 mg/day.

Conclusions. "De novo" Angina Pectoris is a form of unstable AP, characterized by retrosternal pain and progressive dyspnea, with transient changes of the ST segment on EKG in 15-30% of cases. The prognosis of "de novo" AP is favorable in the early diagnosis of this pathology with the administration of the appropriate treatment and the cessation of risk factors.

Key words: Angina Pectoris „de novo", constricting retrosternal pain.

234. CARDIAC RECURRENT HYDATID CYST OF THE RIGHT VENTRICLE: CASE REPORT

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Background. Hydatid disease is a parasitic infection caused by larvae of *Echinococcus granulosus*. Hydatid cysts can be located in various tissues, although they are most common in the liver and the lungs. Cardiac involvement is scarcely encountered with a frequency of 0.01% to 2. Areas of cardiac involvement in hydatid disease including the left ventricle (60% of cases), right ventricle (10%), pericardium (7%), pulmonary artery (6%), and left atrial appendage (6%); involvement of the interventricular septum is rare (4% of cases). Right ventricular cysts have characteristics different from those of left-sided cysts. Right-sided cysts have a tendency to expand intracavitarily and subendocardially, and rupture more frequently, and can cause fatal complications such as anaphylactic shock, dissemination, and pulmonary embolisms.

Case report. We present the case of 58 years asymptomatic old man with cardiac cyst. His past history revealed surgery for a cardiac hydatid cyst 22 years previously, embedded in the right ventricular myocardium. The cyst was resected, during the operation, rupture of the cyst was noted. He completed lasting courses of albendazole therapy. During a 22 years follow-up, the patient was asymptomatic, with no cystic appearance on transthoracic echocardiography, but was observed pulmonary dissemination over a period. This time, at the routine examination, through transthoracic echocardiography was performed and revealed in the apical region of right ventricle, in the free wall, a multicameral cystic formation with d- 31 x 23 mm suggestive for hydatid cyst. Further investigation was performed with cardiac magnetic resonance imaging (MRI), which showed a conglomerate of hydatid cysts of the lateral apical myocardium of the right ventricle (measured 27 x 23 mm), with protrusion into the cavity of the right ventricle and into the cavity of the pericardium and nodular lesions of pulmonary areas suspected for hydatid lesions. Chest X-ray revealed bilateral nodular opacities of different dimensions. A coronary angiogram showed severe stenosis on LAD II-III, DP, insignificant on RCA II, III. The patient was recommended to repeat cardiac surgery with by-pass, and pulmonary CT for provide an accurate diagnosis.

Conclusions. According to the literature, cardiac cystic echinococcosis remains a very infrequent zoonotic infection. Surgical treatment is associated with a low morbidity and

mortality, and the selection of proper technique is very important to completely remove the hydatid cyst and prevent recurrence. A superadded infection is the most common complication of a ruptured hydatid cyst. The risk of recurrence is present; the recurrence may appear much later hence the importance of echocardiographic and radiological monitoring.

Key words: cardiac cystic echinococcosis, recurrence, right ventricle

235. ANALYSIS OF RISK FACTORS OF NON ST SEGMENT ELEVATION MYOCARDIAL INFARCTION IN LOW AND INTERMEDIATE RISK PATIENTS

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Introduction. Non ST segment Elevation Myocardial Infarction (Non-STEMI) is a problem at the global level, which annually takes a large number of lives. The evolution and algorithms of patients treating differs significantly depending on whether the risk according to the GRACE scale is high or whether it is intermediate or low. What factors increase the risk in this patients group remains to be determined.

Aim of the study. To evaluate incidence frequency and to analyze the risk factors in non ST segment elevation myocardial infarction with low an intermediate risk.

Materials and methods. The study included 252 patients with non ST segment elevation myocardial infarction and score GRACE below 140 who was admitted in the hospital. The risk factors for these patients were analyzed.

Results. The average age of the patients was 59.94 ± 0.639 years. 208 (82.5%) of them are men and 44 (17.5%) are women. High blood pressure was noted in 176 patients (69.8%). Stage 1 - 3 cases (1,2%), stage 2 - 87 cases (34,5%), stage 3 - 86 (34,1%). 146 patients (57.9%) were obese. The average body mass index was 26.537 ± 0.173 . Diabetes mellitus was detected in 59 patients (23.4%). High cholesterol was found in 116 (46.0%) patients and averaged $5.308 + 0.085$ mmol /l. 77 (30.6%) patients were smokers. 208 (82.5%) patients had a family history of heart disease or other cardiovascular disease.

Conclusions. Non ST segment elevation myocardial infarction is more susceptible in men over the age of 50 years. Obesity, arterial hypertension of stages 2 and 3 and family history of heart disease or other cardiovascular disease increase the risks of developing Non-STEMI with low and intermediate risk. The presence of diabetes mellitus, high cholesterol and smoking are not so common among this type of patients, these risk factors are most likely to lead to the development of Non-STEMI with a high risk.

Key words: Non-STEMI, myocardial infarction, risk factors.

236. MYOCARDIAL INFARCTION WITH NONOBSTRUCTIVE CORONARY ARTERIES: A PUZZLED STORY

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Introduction. Myocardial infarction with non-obstructive coronary arteries (MINOCA) in contemporary practice involves a large amount of causes and the same number of therapies. MINOCA should be considered as a working diagnosis in order to determine physicians find the specific causes of its appearance, clarify the underlying individual mechanisms and achieve patient-specific treatments, although the mechanism of the myocardial damage in these patients remains unclear.

Aim of the study. This review aims to better understanding the clinical diagnosis of MINOCA

Materials and methods. The article is based on international publication data and on-line materials.

Results. Myocardial infarction without obstructive coronary artery disease (MINOCA) is a syndrome defined by the presence of the universal acute myocardial infarction (AMI) criteria among with normal or near normal coronary arteries and no clinically overt specific cause for the acute presentation. As different clinical studies have reported a prevalence with a range between 4 - 25% of AMI cases, physicians have been regularly confronting with many questions on its management. The demographic and clinical characteristics of MINOCA are different from patients with AMI, being more common in younger and in women, having a lower prevalence of traditional cardiovascular disease risk factors. Studies made pointed a different profile with previous history of depression, emotional stress, inflammatory conditions and malignancy. The diagnosis of MINOCA should exclude first other causes for elevated troponin, overlooked obstructive coronary disease, nonischemic causes for myocardial injury, including Takotsubo syndrome. There are disparate aetiologies causing MINOCA, including: coronary disorders (coronary plaque disruption, coronary dissection, coronary spasm, coronary thrombus/embolus, microvascular dysfunction); myocardial disorders; non-cardiac disorders (e.g.pulmonary embolism). Failure to identify the underlying cause may result in inappropriate therapy in these patients. As the plaque disruption, spontaneous coronary artery dissection are common in MINOCA, it is recommended to use optical coherence tomography or intravascular ultrasound imaging to confirm it. Coronary vasospasm and microvascular dysfunction are other frequent findings in MINOCA patients undergoing provocative testing with acetylcholine – the gold standard technique. Multiple diagnostic pathways have been proposed to evaluate patients with MINOCA, considering as priority cardiac magnetic resonance imaging. Rational treatment fallows from etiologic diagnosis, since same therapy will not be appropriate for all MINOCA patients. The outcome of MINOCA depends on the underlying cause, but its overall prognosis is serious with a 1 year mortality about 3,5%.

Conclusions. MINOCA is a distinct clinical diagnosis with different pathophysiological causes. It is essential that healthcare professionals become familiar with it, use proper

diagnostic criteria, additional investigation techniques and determine target therapies for each patient, in order to improve their clinical outcome.

Key words: MINOCA, coronary disorders, cardiovascular disease

237. THYROTOXIC CARDIOMYOPATHY: A CASE REPORT

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Background. Heart failure (HF) is the final common pathway of many cardiovascular diseases. It imposes significant socio-economic and health care burden to both patients and healthcare systems. Although the most common cause of HF is ischemic heart diseases, other less common causes such as hyperthyroidism (thyrotoxicosis), severe anemia, arrhythmia should also be considered during diagnosis to improve overall clinical management of HF.

Case report. The 42-year-old man was admitted to cardiology department with mixed (inspiratory and expiratory) dyspnea at moderate effort, palpitations, fatigue, the loss in weight of about 15 kg during 9-10 months. Anamnesis: general condition worsened the last 2 months when appeared generalized edema and mixed dyspnea. During this time did not address to doctor, any treatment has not received. Physical examination revealed swelling in the legs, ankles, ascites, an irregular pulse, at a rate of 130 beats/min, BP- 110/70mmHg. On ECG - atrial fibrillation with rate - 120-57 b/min, electric axis of heart is normal. Signs of left ventricular hypertrophy. The chest X-ray -pulmonary congestion, bilateral pleural effusion. The abdominal X-ray – fluid levels with air on the left. On TTE- thickening of the walls of the aorta and valve apparatus. Dilatation of all heart chambers, significant dilatation of the right atrium and right ventricle, and moderate dilatation of the left atrium and the left ventricle. Contractile function of the left ventricular myocardium is moderately reduced. Ejection fraction = 42%. The second degree mitral regurgitation and third-fourth -degree tricuspid regurgitation. Moderate pulmonary arterial hypertension (PASP= 52mmHg). Sheets of the pericardium are thickened. Fluid in the pleural cavity up to 11 millimeters in the region of the right atrium. Bilateral pleurisy - inhomogeneous fluid with floating elements on the left - about 1,000 milliliters, to the right - about 800 milliliters. Cytological analysis of fluid from pleural cavity pointed to the inflammatory etiology of the effusion. On the ultrasound examination of the thyroid gland – fourth –degree hyperplasia, multiple diffuse changes. On the ultrasound examination of abdominal cavity - ascites, bilateral pleuritic, diffuse changes in the parenchyma of the liver. The glycemic profile -7-00: 4.7 mmol/l, 13-00: 6.3 mmol/l, 17-00: 10.6 mmol/l, glycated hemoglobin - 5,6%. Analysis of thyroid hormones- free Triiodothyronine – 17,22 Pmol/l, free Thyroxine – 79,52 Pmol/l. TSH – < 0, 05 uIU/ml; anti TPO- 144 IU/ml. Tumor marker CA 19-9 - <3.0 U/ml. During hospitalization was consulted by endocrinologist, surgeon. After 11 days of complex treatment with diuretics, anticoagulants, beta-adrenoblockers, antithyroid drugs, cardiac glycosides, corticosteroids, histamine-2-receptor blockers - the general condition improved: dyspnea and general swelling disappeared, general weakness was reduced.

Conclusions. The incidence and prevalence of thyrotoxic heart failure (THF) provide a wide variation from 12% to 68% in hyperthyroid patients. Up to 90% of patients with thyrotoxicosis may develop Atrial Fibrillation, 47% Left Ventricle systolic dysfunction and 1% dilated THF and a third of these cases are reversible. Mortality in THF patients is 1.2 higher than in patients with hypertension, valvular heart disease or coronary artery disease, and 1.4 higher than in the general population. Hyperthyroidism is a potentially reversible and curable cause of THF, so it should be excluded in every new patient with HF, especially in young patients and in the absence of coronary artery disease and other structural heart diseases.

Key words: thyrotoxic cardiomyopathy, heart failure.

238. ATRIAL FIBRILATION IN BRUGADA SYNDROM

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Introduction. Atrial fibrillation is the most common cardiac arrhythmia with the worldwide prevalence of more than 33.5 million people and is a subject with increased interest in clinical trials. The reason is the awareness of the high risk of embolic events that in 75 % are complicated by cerebrovascular accidents. It is estimated that the number of patients with AF in 2030 in Europe will be 14–17 million and the number of new cases of AF per year at 120,000–215,000. In approximately 80% of patients, atrial fibrillation is associated with organic heart disease including valvular heart disease (mostly mitral valve disease), coronary artery disease, hypertension, hypertrophic or dilated cardiomyopathy. In 20% of cases, atrial fibrillation occurs in the absence of organic heart disease. Besides the danger of embolic events, atrial fibrillation is the most common atrial arrhythmia found in Brugada syndrome which is associated with malignant ventricular arrhythmias and sudden cardiac death.

Aim of the study. The purpose of this study was to review data about characteristics and management of atrial fibrillation in Brugade syndrome.

Materials and methods. The source of information was represented by articles published in the online databases: PubMed, HINARI, SCOPUS, EMBASE

Results. Current evidence revealed that the prevalence of AF in patients in BrS vastly differs among publish studies, ranged from 6% to 39%. The only genetic mechanism of arrhythmias is related to the mutation of the SCN5A gene that encodes cardiac sodium channels. However, as this sodium channel is found not only in the ventricular tissue, but also in the atria, this could lead to reentrant tachyarrhythmias in the atrium. Nevertheless, management of BrS with AF remains a difficult task, as medication for AF, such as sodium channel blockers, confers their risk owing to their proarrhythmic effects in patients with BrS. In addition, other than quinidine and disopyramide cannot be used because they block sodium channels and cause ventricular arrhythmias. Recent evidence suggested that catheter ablation could be utilized as a first-line therapy for paroxysmal AF in BrS patients. For the last 2 decades, ICD therapy has been considered as the cornerstone therapy of patients with documented ventricular tachyarrhythmia, but recent studies has been associated ICD therapy with a significant rate of

complications, and should be avoided in asymptomatic patients. The most common of these complications are inappropriate shocks, which cause pain, and can produce psychological trauma. Pulmonary vein isolation (PVI) is an effective method for controlling paroxysmal AF. The literature indicates that the success rate of PVI is 79.8% in the long term in patients with brugada syndrome.

Conclusions. According to studies, PVI has been shown to have minimal risk of complications and is considered one of the most effective long-term methods in the control of atrial fibrillation and brugada syndrome. This treatment method could be considered the first line of treatment for atrial fibrillation and in brugada syndrome.

Key words: atrial fibrillation, brugada syndrome, sudden cardiac death, implantable cardioverter-defibrillators, catheter ablation.

239. WELLENS` SYNDROME IN AN ELDERLY PATIENT

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Background. Wellens' syndrome consists of particular T-wave changes in the precordial leads on ECG accompanied by severe proximal left anterior descending artery stenosis, and is often associated with sudden cardiac death and acute myocardial infarction. It is a pre-infarction state. However, this syndrome is not always an acute process. There are two ECG patterns of Wellens syndrome. Type-A: up sloping ST waves, no or mild ST elevation at the J point and biphasic T waves, with initial positivity and terminal negativity. These T wave findings are present in about 25% of cases. Type-B: symmetrical deeply inverted T waves, in approximately 75% of cases. Both types, R waves preserved in the precordial leads

Case report. A 65-year-old male patient, was admitted in the Intensive Care Unit of MCH "Holy Trinity" with Non-STE ACS. Complaining on angina: burning chest pain felt as well in the neck and lower jaw, occurring at mild exertion lasting for ≥ 40 min and relieved by i/v nitrates. Other complains: shortness of breath at mild exertion and fatigue. History: his condition worsened for about 5 days ago while being on a ski resort in Ukraine and felt for the first time angina chest pain lasting about 1h. He was admitted in the ICU of the Regional non-PCI hospital and acute MI diagnose was established, based on a troponin I test – 3,14ng/ml. Because of high costs of the medical care he left the hospital and came back to Moldova by car. During the long trip (5h) he felt several angina episodes, the longest lasting about 40min. ECG at admission: sinus rhythm, normal axis, HR = 76 bpm, up slopping ST segment in V2-V4, ST elevation at the J point max 0,5 mm in V3, biphasic T waves in V2-V4 initially positive than negative. Echography: no wall motion abnormality revealed, EF 58%. Serum troponin T – 0.21 ng/ml (0,3ng ml reference limit), CK-MB - 17 U/l (reference limit 24 U/l). Coronary angiography: two-vessel disease, sub occlusive stenosis of proximal LAD (99%), severe on RCA (75-90%). PCI of the culprit lesion with one DES of new generation was performed successfully and the second PCI on RCA scheduled in two weeks (aiming complete revascularization). ECG on the second day following PCI showed no biphasic T-waves in the precordial leads. At 1 month after the complete revascularization, the patient has no symptoms even at intense exertion.

Conclusions. It is important to identify the ECG signs of Wellens' syndrome and provide appropriate treatment in due time, as this ECG pattern is a sign of instability which can evolve any time into an extensive MI with high mortality and disabling rates.

Key words: Wellens syndrome, myocardial infarction, sub occlusive stenosis

240. TAKOTSUBO CARDIOMYOPATHY (TTS) – A DISEASE THAT MIMICS AN ACUTE CORONARY SYNDROME

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Background. TTS, also known as stress cardiomyopathy and "Broken Heart Syndrome", is a cardiac syndrome that appears suddenly and implies transient left ventricular systolic dysfunction leading to heart failure symptoms. It frequently occurs following a significant stress. Available data report about 1.7-2.2% of patients with suspected ASC to be subsequently diagnosed with TTS. The aim is to present a TTS clinical case and the differential diagnosis with an ACS.

Case report. A 62 years old, female, presented with: compressive chest pain, lasting >6 hours without relieve at rest or on nitrates, shortness of breath at mild exertion and fatigue. Symptoms onset at 2 days following a major stress (death of the only brother). Other symptoms: palpitations, dizziness. Objective: mild uncle swelling. Cracking murmurs in the lower lung fieldson auscultation. Heart rate 86 bpm, BP- 140/80 mmHg, SaO₂ – 95%. Laboratory testing: troponin I – 4.8ng/ml (reference limit 0.3ng/ml), NT-proBNP – 10236pg/ml. ECG: Sinus rhythm, HR – 86 bpm, normal axis, inverted T-waves in I, II, aVL, V3-V6. Echocardiography: moderate LV dilatation: diastolic diameter 57mm, systolic diameter 40mm, LV apical akinesia, middle segments hypokinesia, mild concentric hypertrophy of the LV(septum 12mm, posterior wall 12mm), moderately abnormal systolic function, EF - 39%. Non-STE ACS was suspected and the patient was admitted in the CCU for 48h, and a cardiology ward for 4 days afterwards. Treated with: nitrates, heparins, β -blockers, ACE-inhibitors, aspirin and diuretics. Coronarography (performed on the 2nd day of admission): no significant lesions identified. Non-STE ACS ruled out and TTS presumed. At 4 days: troponin I –1,3ng/ml, NT-proBNP– 3455pg/ml. At discharge troponin I –0.14ng/ml, NT-proBNP- 460pg/ml. Echo: mild LV dilation: diastolic diameter 54mm, systolic diameter 37mm, LV apical hypokinesia, mildly abnormal systolic function EF – 50%, in rest – the same. At 20 days from symptoms onset: ECG: HR 74bpm, normalization of the T waves, in –rest the same. Echo: no wall motion abnormalities, EF 63%, complete recovery of the LV function. TTS confirmed.

Conclusions. TTS is a rare condition which can be suspected when ECG changes and LV wall motion abnormalities present at echo without respecting a specific coronary pool and no culprit lesion is identified at coronarography. An ACS is to be, firstly, ruled out. The diagnosis is confirmed only after the recovery of the LV function.

Key words: Stress cardiomyopathy, Takotsubo, acute coronary syndrome, hypokinesia, akinesia.

241. CARDIAC SURGERY RISK IN AORTIC STENOSIS PATIENTS

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Introduction. Aortic valve replacement (AVR) is the definitive therapy for severe aortic stenosis. Cardiac surgical mortality has decreased significantly over the last 15 years. Currently operative mortality of isolated AVR is ~2–5% in patients <70 years and 5–15% in older adults. Factors associated with an increased operative risk include cardiac-related factors, such as higher functional class, emergency operation, LV dysfunction especially in the absence of contractile reserve, pulmonary hypertension, co-existing coronary disease, atrial fibrillation, previous cardiac surgery, and factors related to demographics (older age, female) or to associated comorbidities, in particular COPD, renal insufficiency, and peripheral arteriosclerosis. EuroSCORE II risk stratification is useful for predicting mortality during medium-term follow-up.

Aim of the study. To assess the risk of specific postoperative complications, perioperative mortality and lengths of hospital stay in the context of cardiac surgery.

Materials and methods. We conducted a prospective transverse study that included 21 patients with severe aortic stenosis. The patients were examined according to a questionnaire, included general data, electrocardiography, echocardiography, angiography of coronary artery; EuroSCORE II was performed.

Results. The average age of the study group was 64,8 ±0,07 (48-77) years, including 13 (61.9%) women and 8 (38.1%) men; 6 (28.6%) – from the urban area, 15 (71.4%) – rural; employees - 6 (28.57%), disabled - 6 (28.57%), retired - 9 (42.85%). Diabetes mellitus - 4(19.04%); moderate renal impairment 17(80.9%), sever -2 (9.5%); poor mobility 2 (9.5%); moderate pulmonary hypertension - 10(47.6%), severe -7(33.3%); NYHA II - 6(28.5%), III-14 (66.6), IV-1 (4.8) patients; coronary artery disease - 4 (19.04%); surgery in the anamnesis 2(9.52%). Echocardiography showed reduced ejection fraction (EF) in 7 (33,3%) patients, mean range EF - 1 (4,7) and normal EF -13 (61,9%) patients. According to EuroSCORE II in the study group the average risk of specific postoperative complication and perioperative mortality in the study group was 4,51% (1,9-10,6%). Low risk was in 1(4.76%) patient, mean risk - 4 (14.28%), mean-high risk - 4 (14.28%), high risk 8 - (38.1%) patients and 4 (14,28%) patients had very high risk.

Conclusions. Patients with aortic stenosis and indications for aortic valve replacement has a high perioperative risk caused by reduced ejection fraction, pulmonary hypertension, heart failure and impaired renal function.

Key words: Aortic stenosis, Aortic valve replacement, EuroSCORE II

242. THE OUTCOMES OF MITRAL STENOSIS

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Background. Valvular heart disease (VHD) affects the population of different age, regardless of their etiology has a lot of complications and death. Rheumatic ethiology was reported in 40 % of valvulopathy and is frequently associated with atrial fibrillation (4.5%), thromboembolic complication (5.9%) and infectious endocarditis (5.8%). Early risk assessment is required to increase the chances to avoid unwanted effects of diseases.

Case report. A 49-year-old female with complains of dyspnoea at minimal effort, palpitations, low tolerance at fizical activity. From the history of the disease is known that in childhood she suffered rheumatic fever. In 1999 was found mitral stenosis and performed mitral commissurotomy, in 2005 - mitral valve replacement and tricuspid valve annuloplasty. In 2006 -paroxysmal atrial fibrillation. In 2005, 2008, 2011- ischemic stroke. In 2008 - infectious endocarditis of mitral valve prosthesis. The patient is given permanent treatment with: „Acenocoumarol”, „Spironolactona”, „Torasemid”, „Amiodarone”. On examination: heart rate 64 b/min, BP -120/60mmHg. Laboratory: dyslipidemia, on ecocardiography: moderate enlargement of left ventricular diameter and left atrium, mitral regurgitation II degree, aortic – II degree, tricuspid – II degree, pulmonar- II degree.

Conclusions. This 49-year-old patient suffered by valvular heart diseases, complicated with infectious endocarditis, paroxysmal atrial fibrillation and three episodes of ischemic stroke which worsened the quality of patient`s life. The prevention and management of these complications requires an understanding of their origin with the aim of to balance the risks wich related with valvular disease and benefits associated with treatment.

Key words: Rheumatic mitral stenosis, outcomes.

243. METE-ANALYSIS OF PREVALENCE OF ECG CRITERIA FOR LEFT VENTRICULAR HYPERTROPHY DIAGNOSIS

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Introduction. Left ventricular hypertrophy is an important predictor for cardiovascular mortality and morbidity. ECG is the most accessible method of LVH diagnosis, but has a low sensibility. It's detection still remains an important factor that contributes to cardiovascular risk stratification.

Aim of the study. The aim of the study is to evaluate the prevalence of different ECG criteria for left ventricular hypertrophy diagnosis in common population.

Materials and methods. A comprehensive systematic search of studies published in different databases like MEDLINE, EMBASE and Scopus were selected. The main inclusion criteria was the research of Sokolow-Lyon, Cornell index, Romhilt-Estes and RaVL ECG criteria.

Results. 4 studies were identified to correspond inclusion criteria. The included studies comprised 2209 patients. The sensibility of selected criteria are: Sokolow-Lyon 10-27%, Cornell index 23-45%, Romhilt-Estes 24-49%, RaVL 8-26%. The revealed heterogeneity is due to differences of population groups such as age, gender, race and presence of comorbidities.

Conclusions. The findings of this study revealed that Romhilt-Estes score is the most relevant ECG criteria for left ventricular hypertrophy diagnosis for common population.

Key words: Electrocardiography left ventricular hypertrophy, Sokolow-Lyon, Cornell index, Romhilt-Estes score, RaVL.

244. NON-VALVULAR ATRIAL FIBRILATION, CEREBRAL COMPLICATIONS

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Introduction. -Identification of risk factors of FA and development of stroke. Identification of the presence of comorbidities among the analyzed patients. Estimation of the degree of cerebral impairment in stroke with FA / without FA. Determination of the degree of compliance and therapeutic control in patients with AF. Analysis of neurocognitive disorders through MMES (Mini test for mental health examination).

Aim of the study. Assessment of the impact of non-valvular AF on cardioembolic stroke production and impaired cognitive ability.

Materials and methods. The study was performed on a number of 60 stroke patients, from: The *Sfânta Trime* Municipal Clinical Hospital and the Institute of Emergency Medicine.

Results. In group 1, two age categories prevailed, 61-70 years (55%) and 81-91 years (15%) and a higher incidence of women (80%). Risk factors were: obesity (60%), stress (33.3%), sedentary lifestyle (26.6%), smoking (6.67%), alcohol consumption (13.3%) and hereditary factor (33.3%). In group 2, patients between the ages of 61-70 years (63.3%) predominated, more often the male sex (53.3%), the risk factors being: smoking (53.3%) with an index of 20 packs / year, alcohol consumption (16.6%), obesity (60%), stress (33.3%), sedentary lifestyle (40%) and hereditary factor (13.3%). The comorbidities present in the patients included in the study were: CI (61.67%), DZ tpi II (21.7%), HTA (86.6%), PA (26.6%), CPI (60%), IM (1.6%), BCR (11.6%), cancer (1.66%) and Dyslipidemia (33.3%).

Conclusions. 314/5000 The study argues the need to prevent thromboembolic complications through drug control with anticoagulants and to maintain the INR in the therapeutic window in patients with AF. Information and education of patients on a large scale in order to achieve a better treatment compliance.

Key words: stroke, Atrial Fibrillation, Complications

245. THREE-VESSEL CORONARY ARTERY DISEASE TREATMENT IN AN ELDERLY PATIENT

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Background. Coronary artery disease is the leading cause of mortality and morbidity in elderly patients (≥ 65 years old). This population, usually, have a more extensive and complex coronary disease as well as more associated comorbidities and frailty. Revascularization (by either PCI or CABG aiming complete revascularization) is the treatment of choice.

Case report. A 65 years old, female, presented in the emergency department complaining of: shortness of breath at minimal exertion, episodes lasting for 5-20 min relieving at rest, fatigue and palpitations. History: Hypertension for ≥ 15 years, max. BP 220/120 mmHg, diabetes mellitus type 2 for 7 years, chronic atrial fibrillation for 3 years, ischemic stroke (2016), no permanent medication except metformin 850mg twice daily. Objective: mild ankle swelling, crackling rales in the lower lung fields on auscultation. HR – 98 bpm, BP - 185/95 mmHg, SaO₂ – 94%. Laboratory testing: troponin I – 0.58 ng/ml, NT-proBNP – 3241 pg/ml. ECG: rhythm – atrial fibrillation, HR – 86-150 bpm, horizontal axis, deeply inverted T-waves in V2-V5, consistent with type B Wellens syndrome. Echo: mild LV dilatation, mildly reduced LV systolic function EF – 49%, no wall motion abnormalities. Admitted to the ICU, with non-STE ACS, Grace score 114. Treated with heparins, DAPT, nitrates, β -blockers, ACE-inhibitors, CCB and diuretics. Coronarography performed on the 2nd day of admission: Three-vessel coronary disease: subocclusive (99%) proximal LAD stenosis, subocclusive (90-99%) RCA II stenosis, severe (75-90%) aCX I-OM I stenosis. Syntax score 18. The patient refused surgical intervention and undergone PCI with DES of new generation in three stages. PCI on LAD performed the same day, followed by PCI on RCA in two weeks' time and aCX after another 5 weeks. The total stents length – 131 mm. Total radiation: time – 48,9 min, DAP – 46,746 μ Gy, cumulative – 6449 mGy. Total contrast (Ultravist) amount 650 ml. Total ICU time – 18 h. Six months after complete revascularization achieved and optimal medical treatment: the patient is feeling well, the quality of life has improved, no shortness of breath at moderate exertion, no angina. Normal ECG and Echo: EF improvement – 58%.

Conclusions. In elderly patients with multi-vessel coronary artery disease and low Syntax score, either revascularization procedure (PCI or CABG) on top of optimal medical therapy can be performed with good results when complete revascularization is achieved. The patients' choice for intervention should always be taken into account.

Key words: Elderly, three-vessel coronary artery disease, new generation drug eluting stents

246. MINIMALLY INVASIVE SURGERY APPROACH IN CASE OF SOLITARY AORTIC DEFECT

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Introduction. Mini-sternotomy for plastic surgery or isolated aortic valve replacement requires rapid recovery with diminished convalescence time.

Aim of the study. Mini-sternotomy for plastic surgery or isolated aortic valve replacement requires rapid recovery with diminished convalescence time, improved cosmetic outcome and lower hospital costs. The basic clinical benefit of a mini-sternotomy implies that the lower half of the ribcage remains intact. The basic conduct of virtually all other aspects of the aortic valve replacement procedure remains the same. Therefore, similar long-term results are expected.

Materials and methods. In the period April 2014 - April 2019 in Medpark Hospital were operated 76 patients with severe solitary aortic valve defect. All patients underwent inverted J-sternotomy, which extended over the sternum handle to the third right intercostal space, without opening the pleural cavity. The ages of the patients ranged from 23 to 77 years, 50 -men and 26 -women. The patients were kept in the Trendelenburg position, used being the bilateral venous cannulation, the common aortic cannulation. All patients benefited from bioprostheses and mechanical prostheses with diameters between 21 and 29 mm. Three patients underwent conversion to conventional sternotomy.

Results. The length of stay in intensive care was significantly shorter with 0.61 days in favor of the mini-sternotomy group. There was no benefit in terms of ventilation duration. There was evidence suggesting a reduction in blood loss and length of stay in the hospital in the mini-sternotomy group. This did not prove statistically significant (the reduction with, on average, by 114.4 ml and 2.03 days less hospitalization). Deep sternal infections were not reported.

Conclusions. Mini-sternotomy for isolated aortic valve replacement significantly reduces the length of stay in cardiac intensive care. Other short-term benefits may include lowering blood loss. At the same time, deep sternal infections were not reported, which is a remarkable result. This approach provides greater comfort to patients in the early postoperative period, with a painful syndrome decreased and a greater desire for early discharge from hospital and all its inherent advantages.

Key words: Mini-sternotomy, Aortic valve replacement, Trendelenburg position, Bioprostheses prostheses , Mechanical prostheses, J-sternotomy Cardiac Intensive Care

247. ADMINISTRATION OF ANGIOTENSIN-CONVERTING-ENZYME INHIBITORS IN THE TREATMENT OF HYPERTENSION

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Introduction. High blood pressure is an extremely important public health problem worldwide. According to the WHO, the number of adults with high blood pressure increased to 1.13 billion in 2015. Considering the cardiovascular diseases, the high blood pressure complications accounted for 9.4 million deaths worldwide in 2015. In Moldova, according to statistical data, 58.1% of deaths were caused by cardiovascular diseases in 2018. The data of the National Statistics Bureau demonstrate the prevalence of circulatory system diseases in the structure of population morbidity in 2018 (707,800).

Aim of the study. This study aims to assess the antihypertensive efficacy of various preparations forming the class of angiotensin-converting-enzyme inhibitors in patients with

high blood pressure. Thus, the high blood pressure control is achieved by reaching the target values in the middle-aged patients (130/85) and reducing the pressure to at least 140/90 in the elderly.

Materials and methods. The study was performed on 60 patients, who had a blood pressure level of $\geq 140/90$ when admitted to the hospital. Thirty patients took Lisinopril and other thirty patients took Ramipril. The dynamics of the values was monitored and the blood pressure levels at the time of discharge and hospitalization were compared.

Results. We found that of thirty patients taking Lisinopril, systolic blood pressure decreased by 0-10 units in 7 patients (23%), by 11-20 units in 14 patients (47%), by 21-30 units in 6 patients (20%), by 31-40 units in 2 patients (7%), and by 41-50 units in one case. Among patients taking Ramipril, the pressure decreased by 0-10 units in 2 patients (7%), by 11-20 units in 11 patients (37%), by 21-30 units in 9 patients (30%). It decreased by 31-40 units in 7 patients and by 41-50 units in 1 patient. At discharge, 18 patients taking Ramipril had blood pressure $< 140/90$, compared with those taking Lisinopril – 14.

Conclusions. Converting enzyme inhibitors are an effective therapeutic class in lowering blood pressure. Ramipril has decreased the pressure values by more units compared to Lisinopril.

Key words: converting enzyme inhibitors, high blood pressure.

FUNDAMENTAL SCIENCES SECTION

DEPARTMENT OF HUMAN ANATOMY

248. ANATOMICAL VARIATIONS OF THE ARTERIAL CORONA MORTIS

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Introduction. The arterial anastomoses of the lower limb magisterial arteries are of great clinical significance in collateral circulation. The obturator artery is one of the branches of the anterior trunk of the internal iliac artery that supplies the pelvis and the thigh. The obturator artery gives off a pubic branch which anastomose with the obturator branch of the inferior epigastric artery, thus determining the anastomosis called „corona mortis” (Kirchner), because its injury in herniotomy can cause a fatal bleeding. A detailed comprehension and knowledge of the morphological, topographic and individual peculiarities of the ”corona mortis” will contribute to the avoidance of complications in surgery of the pubic and inguinal regions.

Aim of the study. To mark out the anatomical variations of the ”corona mortis” using modern imagistic methods.

Materials and methods. We have studied the branches of the external iliac artery and the anterior trunk of the internal iliac artery on 197 selective angiographies that were obtained from the database of the Vascular Surgery Department of the Clinical Republican Hospital *Timofei Moşneaga*, Republic of Moldova. The angiographies on the patients in the study poll were made in order to conclude the severity of the peripheral occlusive syndrome. The age range of the patients was 20-80 years; the median age was 65 years. Depending on gender, 161 angiographies were made on male patients and 36 angiographies on female patients. The origin of the internal and external iliac arteries, their paths, branches and branching type, relations towards the neighboring vascular elements, and arterial anastomoses of the pubic region were

examined on angiographic records. The obtained data were stored, analyzed and statistically processed using the Microsoft Excel and SPSS 6.0 software.

Results. Anatomical variants were identified in 39% cases. A classification of the arterial "corona mortis" based on the angiographic picture was done.

Conclusions. 1. The most frequent type of the "corona mortis" was the classical one, of Lambda minor type. 2. The bilateral "corona mortis" was present in almost half of cases (44,15%), the second most frequent type was the left unilateral one (35%). 3. Knowledge regarding uncommon types of "corona mortis", are of clinical significance, due to high risk of lesions in surgery of the pubic and inguinal regions.

Key words: artery, corona mortis, obturator artery, pubic region

249. EPIDEMIOLOGY AND SPECTRUM OF CONGENITAL HEART DEFECTS

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Introduction. Congenital heart defects (CHDs) are common malformations and a major problem faced by physicians in their therapeutic management. The incidence of CHDs according to WHO is 10 per 1000 newborns on average. Around 500 children with CHDs are born annually in the Republic of Moldova. To date, CHDs have the highest incidence, characterized by increased morbidity and mortality, especially during childhood. Late diagnosis of CHDs leads to many irreversible complications, sometimes sudden death, that accounts for 3-5% of newborn deaths in the first week of life, and 33% of deaths in the neonatal period (0-28 days).

Aim of the study. To evaluate the incidence of CHDs in children in the Republic of Moldova, depending on gender and age.

Materials and methods. It is a retrospective, cohort study. The group consisted of 665 children with CHDs (51.1%), selected from the total number of 1300 patients admitted to the Cardiology Department of the MSPI Institute of Mother and Child between January 2019 and December 2019. Patients' observation sheets were examined, a number of relevant parameters being studied, such as patients' age and gender, background, causes of the disease, diagnosis, symptoms, laboratory and paraclinical investigation protocols, treatment.

Results. Out of the studied group, 452 patients (67.96%) were male and 213 (32.03%) female. There were 325 (48.8%) patients aged between 0-3 years, 150 patients (22.5%) between 4-10 years, and between 11-18 years - 190 patients (28.5%). There were 254 children (38.1%) from rural area and 411 children (61.8%) from the urban area. 113 children (17%) were diagnosed with aortic stenosis (AoST), 47 children (7%) with pulmonary artery stenosis (PS) and 27 (4%) with aortic coarctation (AoCo). In 146 children (22%) ventricular septal defect (VSD) was confirmed, atrial septal defect (ASD) - 93 (14%) patients, and 27 children (4%) with atrio-ventricular canal (CAV), 40 children (6%) - tetralogy of *Fallot* (TF), 40 children (6%) were diagnosed with persistence of arterial canal (PAC), 13 children (2%) with a single ventricle and 119 children (18%) with other combined heart defects.

Conclusions. Children with CHDs have a higher incidence compared with children diagnosed with other cardiovascular diseases. About 2/3 of children with CHDs were male, and half of

them were 0-3 years old. Among CHDs, the most common abnormalities were found to be DSV and ASD, followed by PAC, TF and SP.

Key words: Congenital heart defects, septal defect, tetralogy of *Fallot*

250. VARIATIONAL ANATOMY OF THE PANCREAS VIEWED BY MODERN IMAGISTIC METHODS

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Introduction. The anatomical variants and developmental abnormalities of the pancreas do not always manifest themselves, sometimes being accidentally find out, during abdominal ultrasound. In case of clinical manifestations of pancreatic variations, patients had such symptoms as: abdominal pain, nausea and vomiting, being diagnosed with acute pancreatitis, which later by modern imaging examination, such as computed tomography and cholangiopancreatography by nuclear magnetic imaging, confirm one of the structural deviations of the pancreas, or the passage and drainage of its excretory ducts.

Aim of the study. To determine the morphological peculiarities and variation anatomy of the pancreas based on modern diagnostic methods.

Materials and methods. The study was a retrospective, and descriptive one, conducted in the MSPI CRH *Timofei Moșneaga*, on a group of 15 patients, of both genders, aged between 21-57 years, hospitalized with acute pancreatitis, during the years 2014-2015. The images of the computed tomography and the cholangiopancreatography by nuclear magnetic imaging from the observation sheets of the patients included in our study were analyzed. The investigations images highlighted the morphological structure of the pancreas, the path of the pancreatic ducts, and the types of their fusion with the common bile duct.

Results. By computed tomography in 7 patients were identified 3 variants of structure of the pancreas: lobulated pancreas, determined in 2 cases, characterized by unusual contour of the head of the pancreas; diffuse fat infiltration of the pancreas in 2 cases, characterized by presence of adipose tissue throughout the structure of the organ; pancreatic hypoplasia - 1 case, characterized by a short, round pancreatic head and an underdeveloped body, with splenomegaly; congenital pancreatic cyst - 1 case, in which the cyst had a uniform contour with thin walls, located in the region of the pancreatic body; accessory pancreatic lobe - 1 case, located superior to the cervix, its duct opening into the Wirsung duct. The cholangiopancreatography identified 2 variants of course and 2 variants of pancreatic ducts fusion, found in 8 patients, aged between 30-57 years: sigmoid path of Wirsung duct was established in 3 cases; loop-shaped path of the Wirsung duct - 1 case; Wirsung and Santorini duct fusion - 2 cases; Santorini duct of sigmoid shape - 2 cases.

Conclusions. The most informative methods for identifying variants and developmental abnormalities of the pancreas are computed tomography and cholangiopancreatography. Their timely detection is important in the therapeutic management of patients who clinically manifest symptoms of acute pancreatitis.

Key words: pancreas, Wirsung duct, anatomical variants

251. SOME ANATOMICAL VARIANTS OF THE ARTERIES OF THE UPPER LIMB

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Introduction. The study of individual variability is a large division of anatomy and one of the current directions of modern morphology. Many errors in medical practice are caused by the ignorance of anatomical variants. Radiologists may mistakenly confuse and interpret angiographic images with such vascular patterns, and surgeons may encounter difficulties during surgery at this level.

Aim of the study. Morphological and imaging evaluation of variations of the brachial artery (BA) branching pattern.

Materials and methods. A retrospective, descriptive study of BA was carried out on 70 upper limbs (UL) of formalized adult cadavers, dissected at the Department of Human Anatomy of *Nicolae Testemitanu* SUMPh, and on 183 angiographies, taken from the database of the Medical Center *Euromed Diagnostic*, and from the Department of Interventional Radiology, Angiography of MSPI MCH *Sfânta Treime*, from Chisinau, Republic of Moldova. Using the method of fine anatomical dissection and the analysis of angiographic records, the branching pattern of BA at the level of its terminal branches was followed.

Results. The atypical branching pattern of BA was determined in 21 UL (8.3%). The identified cases were divided into 5 groups: 1) high bifurcation of BA, found in 2.7% (7 UL: in 4 UL it was visualized in the middle third of the arm; in 1 UL - at the level of the retropectoral portion of the axillary artery (AA); in 1 UL - in the upper third of the arm and in another UL - in the lower third of the arm); 2) BA trifurcation, established in 2% (5 UL: in 4 UL the brachial artery trifurcated into the radial, ulnar and radial recurrent arteries, and in another limb - into the radial, ulnar and common interosseous arteries); 3) high origin of the ulnar artery, 2% (5 UL: in 3 UL it started from AA, and in the other 2 - from BA, in the upper third of the arm); 4) high origin of the radial artery, 1.2% (3 UL: in 2 UL it started from BA, in the upper third of the arm, and in another limb - from AA); 5) the presence of superficial BA - 0.4% (in 1 UL, this artery started from the retropectoral portion of AA, while in the lower third of the arm it anastomosed with BA).

Conclusions. The origin and course variation of BA are of major practical importance for both radiologists and vascular surgeons.

Key words: arterial variants, brachial artery

252. DEVELOPMENT OF THE FACIAL NERVE IN HUMAN EMBRYOS

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Introduction. The facial nerve derives from the facio-acoustic primordium that gradually differentiates into the facial nerve and acoustic ganglion. At the end of embryonic period, all derivatives of the facial nerve are distinguished.

Aim of the study. The aim of our study was to emphasize the peculiarities of the facial nerve embryogenesis.

Materials and methods. The development of the facial nerve was studied on 39 series of sagittal, frontal and transverse cross-sections of human embryos at Carnegie stages 13-23 from the embryological collection of the Department of Normal Anatomy of the Belarusian State Medical University from Minsk.

Results. At stage 13 the facio-acoustic primordium split into the facial nerve and acoustic ganglion. During stages 15-17 the intracranial connections of the facial nerve with the trigeminal and glossopharyngeal nerves were distinguished. The facial nerve appeared as a dark impregnated trunk, that later converted into a loose neurofibrous structure. The peripheral branching of the facial trunk into the temporofacial and cervicofacial divisions was distinguished at stage 14. At the beginning of stage 15 the parotid plexus branches were marked out. The geniculate ganglion appeared as an ovoid structure, consisting of nervous fibers and rows of growing neuroblasts. At stage 15 the chorda tympany nerve derived from the geniculate ganglion and it run between the auditory ossicles. At the end of stage 15, beginning of stage 16 the greater petrosal nerve was distinguished, and at its origin the nerve was thick, but slightly after that it continued into a thin twig that distally connected with the lesser petrosal nerve and then disappeared into the surrounding mesenchyme.

Conclusions. The facial nerve derived at stage 13 from the facio-acoustic primordium. At stages 15-17 the intracerebral connections of the facial nerve with the trigeminal and glossopharyngeal nerves were well distinguished. The geniculate ganglion consisted of nervous fibers and neuroblasts in growth. The chorda tympany nerve was one of the earliest branches that derived from the facial trunk, and then the greater petrosal nerve appeared. The temporofacial division of the facial nerve was better developed in comparison with the cervicofacial one, and in the infraorbital region, it had a plexiform character.

Key words: embryo, facial nerve, geniculate ganglion

253. ANATOMICAL VARIATIONS OF THE UPPER LIMB NERVES

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Introduction. The puncture and catheterization of the main arteries of the upper limb, as well as the nerve blocks that are often performed by surgeons, are considered „blind” methods, the success of which depends on their in-depth knowledge of the anatomy of the nerves and blood vessels of the given level. The existence of anatomical variations (AV) of the nerves of the upper limb (UL) must be taken into consideration when selecting the intervention tactics, otherwise the risk of mono- or polyneuropathy may increase.

Aim of the study. Identification of AV of the nerves of the UL depending on gender and laterality.

Materials and methods. A morphological, descriptive study of the brachial plexus (BP) branches was performed on 30 upper limbs (14 male and 16 female), collected from formalin-

treated adult cadavers, selected from the Department of Human Anatomy of *Nicolae Testemitanu* State University of Medicine and Pharmacy. By anatomical dissection method the formation of UL nerves, their interconnections, topography and relation to the accompanying arteries, as well as the existent variations were evaluated.

Results. Anatomical variations were identified in 6 UL, 4 of them were male (3 right upper limbs and 1 left upper limb) and 2 female (both right upper limbs). Variations of median nerve (MN) formation were identified on 2 UL (both male, right upper limbs); in the first case MN was formed by three roots, coming from the three cords of BP, and in the second case - it was formed by a single root that started from the medial cord of the plexus. On one left UL of a male, an abnormal relationship of MN with axillary artery (AA) was determined; it was formed from its usual roots, but posterior to AA, and continued to run on the arm lateral to the brachial artery until the cubital fossa, where MN crossed it anteriorly and lied medial to it. On one right UL of a female, the formation of the ulnar nerve from the lateral cord of the BP was established; it passed below the biceps brachii muscle and reached the medial bicipital groove in the middle 1/3 of the arm, after which it passed posterior to the medial epicondyle of the humerus, and then on the forearm to continue its classic path. Variations of connection of BP nerves were found on 2 right UL (one of each gender); in one case the connection between the axillary and radial nerves was identified, and in another case – the connection between the median and musculocutaneous nerves was identified.

Conclusions. More often, the right male upper limbs are exposed to variations of the median nerve.

Key words: brachial plexus, anatomical variations

254. CONJOINED TWINS – MORPHOCLINICAL ASPECTS

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Introduction. One of the most interesting and hard to manage congenital malformations refers to legendary conjoined twins. This abnormality has a rare occurrence in medical practice. Frequently, the twins are born dead, but there are few cases when they survive. Current technology is lending a helping hand in the early diagnosis of these conditions. More commonly known as „Siamese twins”, this phenomenon is shrouded in mystery and considered a curiosity by general public. The cause of conjoined twins is unknown. Two theories have been postulated to explain the origin of this phenomenon: the *fission* and the *fusion* theories. Until now, more than 250 separation surgeries have taken place around the world and with very rare incidence of successful separation surgery as per the current literature available.

Aim of the study. To analyze the history, epidemiology, etiology, diagnosis, management and other morphoclinical aspects of conjoined twins.

Materials and methods. Scientific articles were selected from PubMed, Hinari and Cambridge University press databases. The research was not delimited to a specific period of time and was supplemented with bibliographic data from statistic sites, of the Ministry of Health, Labour and Social Protection of the Republic of Moldova, and the exhibits of the Anatomic Museum of *Nicolae Testemitanu* State University of Medicine and Pharmacy were analyzed.

Results. The statistical analysis of the incidence and mortality for congenital malformations, chromosomal deformities and abnormalities of children under 18 in the Republic of Moldova for the years 2008-2018 has shown a peak in 2011-2012 years. Unfortunately, the rarity of the disease impede continuous improvements in diagnostic, management and separation techniques, so each case is an opportunity to introduce new techniques and methods to help in achieving the best possible results.

Conclusions. Further work in epidemiology and molecular research is necessary to realize the etiology and pathogenesis involved in the development of this strange phenomenon of nature. Quick interventions geared toward rapid diagnosis and management should be implemented to help decrease maternal and neonatal morbidity and mortality. The evaluation of these children should be multidisciplinary, involving mainly obstetricians, pediatric anesthesiologists and pediatric surgeons.

Key words: twins, conjoined twins, Siamese twins

255. MORPHOCLINICAL ASPECTS OF KIMMERLE'S ANOMALY

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Introduction. Knowledge of the morphological abnormalities of the atlas (C1) is essential in clinical studies. The complete or partial ossification of the posterior atlanto-occipital ligament, that connects the posterolateral edge of the superior articular facet of the atlas with the superior surface of the posterior arch of C1, is called Kimmerle's anomaly (KA). Clinically KA is associated with Barré-Liéou syndrome, but sometimes, even if present, it can show no symptoms.

Aim of the study. Investigation of KA types and their prevalence depending on gender and age of the patient.

Materials and methods. This study was carried out on 145 lateral X-rays images of the cervical region of the vertebral column in patients aged between 12-88 years, in some patients KA was present in others absent, and 57 CT 3D reconstructed images of patients only with KA, aged 19-79 years, were examined. The selected images did not contain any other pathological changes of the C1. The data were analyzed by frequency analysis of occurrence and type of KA, logarithmic trend line, Pearson's χ^2 test (p-value for the test to be statistically significant is 0.05).

Results. On the X-rays images, KA was present in 28.95% of cases. The prevalence of KA among males was 13.1% and in females – 15.85% , that statistically is insignificant (χ^2 (2, N=145) = 0.64, p=0.73). On CT 3D reconstructed images, KA in females was established in 56.14% of cases and in males in 43.86% of cases. Considering both imaging studies (99 cases with KA), the prevalence of the complete KA (65.66%) and incomplete (34.34%) was statistically insignificant for both genders (χ^2 (1, n=99) = 0.22, p=0.64). The two types of KA can be present at any age independent of gender (all R2 values according to the logarithmic trend line were between 0.01-0.55). The average age for revealed KA was 47.21 years. The morphological structures of KA more detailed were observed on CT 3D reconstructed images, due to the possibility to see: the thickness of the bone bridge, the shape and the dimensions of the foramen, the unilateral, or bilateral position, the starting place of the osteophyte.

Conclusions. The presence of KA is relatively common, and it does not depend on age or gender of the patient, having a wide range of morphological variation. Regardless of the type of the anomaly, its presence should be taken into account by medical and non-medical specialists, for the recommendation of an appropriate way of life and treatment. Before surgery on the C1 region, an imaging examination (preferably CT or CT 3D) would help to choose the necessary materials and reduce the risk of damage to the adjacent structures.

Key words: atlas, Kimmerle's anomaly

256. VARIATIONS OF CORONARY ARTERY BRANCHING AND TOPOGRAPHY

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Introduction. According to medical literature, the coronary arteries are subjected to some morphological peculiarities. The research findings on variations of the topography, size and branching of vessels are highly important. It should be taken into account in cardiology for diagnosing, preventing and selecting methods of treatment of cardiac diseases as well as in cardiac surgery in case of surgical interventions.

Aim of the study. To identify the individual variations of topography and branching of the coronary arteries.

Materials and methods. According to goal of our study, 9 isolated heart samples and 2 heart-lung complex samples of adults and children were dissected by fine anatomic dissection method under binocular magnifier. The branching variations of the major coronary arteries and their topography were analyzed. The size of the arteries was measured and all the samples were photographed. The blood supply to the pericardial layer was examined on the basis of 13 samples of adults using the macromicroscopic method of elective Schiff staining of total anatomic preparations as described by M.G. Shubich and A.B. Khodos (1964, 1971), adjusted by the researchers of Human Anatomy Department (M. I. Ștefanuț, 1991, 1998; I. Catereniuc, 2000; I. Catereniuc, M. Ștefanuț, 2003).

Results. The morphological peculiarities of the coronary arteries were examined using the macro-dissection method. The left coronary artery has demonstrated high-degree variability compared to the right coronary artery. The outer diameters of the coronary arteries were relatively constant. The diameter of the left coronary artery near the aorta varied in size between 3.5 mm and 6.5 mm. The vessel immediately divided into three branches. The diameter of the right coronary artery near the aorta varied in size between 4.0 mm and 9.0 mm. In all the examined samples, the artery had one branch with multiple small collateral ramifications along its length. In one sample, the right coronary artery split into two branches of equal diameter. The arteries and their branches disappeared in the depth of the cardiac muscle and pericardial layer. The advantage of the Schiff staining method is that the reagent dyes the thinnest vessels located relatively deep. This is extremely important for macro and microscopic examinations when it refers to the sources of blood supply. The stained preparations revealed vascular plexuses formed by branches of different coronary arteries and their intrasystemic overlapping areas, which serve as a defense mechanism.

Conclusions. According to our findings, the diameter of coronary arteries varied. It depended on the heart size, on age and gender of the patient. The left coronary artery was wider in diameter and had a larger number of branches due to a considerably overload of the left heart chambers. Multiple anastomoses between the small branches of different arteries of the vascular plexuses and intrasystemic overlapping areas were revealed.

Key words: Coronary arteries, vascular plexuses

257. VARIABILITY OF THE AORTIC BULB AND ORIGIN OF THE CORONARY ARTERIES

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Introduction. The cardiovascular diseases are currently the leading cause of death in industrialized countries, and it is expected to become the leading cause of death in developing countries as well. The abnormalities of the coronary arteries origin can lead to life-threatening consequences, expressed through arrhythmias, syncope, myocardial infarction, or even sudden death in 20% of cases. Some abnormalities are asymptomatic, or produce non-characteristic symptoms, which are accidentally diagnosed during routine investigations, the most commonly during conventional angiographies.

Aim of the study. To make a detailed analysis and synthesis of the bibliographic sources regarding variability of the aortic bulb and origin of the coronary arteries.

Materials and methods. A literature review of 112 sources from MEDLINE, PubMed, Research Gate and Science Direct database were analyzed, but only 77 of those sources were eligible for our study.

Results. Abnormal origin of the coronary arteries can be detected on birth but also during adulthood. It regards the variations of coronary orifices origin in relation to the sino-tubular junction, leading to serious pathologies that can endanger the life. Among such abnormalities is the origin of the left coronary artery, leaving the right coronary sinus, which should be repaired in almost all patients. While the right coronary artery origin from the left coronary sinus is more frequent, but may be less severe, and surgery is generally reserved for patients with symptoms attributed to ischemia (such as syncope during exercises), documented ischemia, or history of coronary syndrome. The abnormal origin of the left coronary artery from the pulmonary artery is a rare congenital abnormality that if left unrepaired, has a mortality rate up to 90%.

Conclusions. Abnormalities of the coronary arteries origin are rare but significant, with potential risk for ischemia, related to physical exercises, which can be present in children, young and old people. Two main types of coronary arteries origin malformations are distinguished: the benign ones (with less life risk), and malignant (of high surgical interest). A unique surgical strategy cannot be applied to all the patients, and the operative techniques must be individualized, based on the individual specific anatomical features.

Key words: coronary arteries, aortic bulb, variability

258. ANATOMICAL VARIABILITY OF THE EXTRAHEPATIC BILE DUCTS

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Introduction. The extrahepatic bile ducts comprise a canalicular system made up of the common hepatic bile duct, cystic duct and the common bile duct (CBD). The cystic duct may be variable in length and usually join the common hepatic bile duct to form CBD, which passes between the layers of the inferior portion of the hepatoduodenal ligament anteriorly to the portal vein and on the right side of the hepatic artery. CBD is directed inferoposteriorly towards the descending part of the duodenum, where it lodges the pancreatic groove, often covered by a thin layer of pancreas, and finally, it penetrates duodenal wall and either alone, or after joining the main pancreatic duct it opens at the level of the greater duodenal papilla. The main arteries that supply the CBD are branches of the gastroduodenal and the right hepatic arteries. This arterial anatomy is clinically relevant in iatrogenic CBD injury, as compromise of this vascular network can lead to stenosis. Several classifications have been proposed for anatomical variations of the biliary tree. In 1996 Huang et al. proposed a classification based on the right posterior hepatic bile duct insertion and it is primarily used for living donors in liver transplantation. Huang classification includes five groups starting with A1 as the most common and ending with A5 as the least common types.

Aim of the study. Analysis of the anatomical variation of the biliary system

Materials and methods. This study is based on a references review accessed from PubMed, NCBI, Research Gate and Academia.edu databases.

Results. Five anatomical variants of the biliary tree were classified by Huang. Type A1 (right-dominant): the right posterior duct drains into the right anterior hepatic ducts and joins the left hepatic duct to form the common hepatic duct (CHD). Huang type A2 (trifurcation): the right posterior hepatic duct, right anterior hepatic ducts and left hepatic duct join each other in a trifurcation and form CHD. Huang type A3 (left dominant): the right posterior hepatic duct drains into the left hepatic duct and then joins the right anterior hepatic duct to form CHD. Huang type A4 (aberrant right): the right anterior hepatic duct drains into the left hepatic duct and then joins the right posterior hepatic duct to form CHD. Huang type A5 (aberrant right): the right anterior hepatic duct drains into the left hepatic duct and forms CHD. The study included 362 patients (181 males and 181 females): 163 patients had type A1 (right dominant). The prevalence of A1 (right dominant) was 45%, the most prevalent type among the studied patients. Type A2 Huang (trifurcation) was marked out in 78 patients (21.5%). Type A3 Huang (left dominant) was established in 48 patients (13.3%). Type A4 was pointed out in 13 patients (3.6%). There was no patients categorized as type 5. Non-right dominant anatomy was determined in 55% of patients.

Conclusions. The anatomical variation of the biliary system presents a relatively increased incidence. A full understanding of the relationships between these structures is imperative for general and hepatobiliary surgeons.

Key words: extrahepatic bile ducts, Huang classification, anatomical variants

259. INDIVIDUAL SPECIFIC FEATURES OF THE THYROID GLAND IN MORPHOLOGICAL ASPECT

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Introduction. The thyroid is an unpaired endocrine gland, consisting of two lobes connected by isthmus and it is located in the middle side of the anterior region of the neck. Its projection corresponds to the C5-C7 and T1 vertebrae. Being covered only by skin, a thin layer of fatty tissue and skeletal muscle of the neck, the gland, can be explored by palpation, and in case of hypertrophy, it protrudes into the anterior region of the neck. The thyroid gland has many morphological and functional features, and one commonly encountered is the presence of the pyramidal lobe. The pyramidal lobe of the thyroid gland is commonly visible as an incidental finding on ultrasound examination. The incidence of pyramidal lobe has been well described on scintigraphy, cadaveric and surgical series with a broad range of findings reported. Whilst a pyramidal lobe may be an entirely incidental finding, it can be affected by the same range of pathologies as the remainder of the thyroid, and hence it is important to recognize its normal variant. This has potential relevance in the pre-operative setting where knowledge of an existing pyramidal lobe may help to ensure complete resection at surgery. In addition, the pyramidal lobe may be a site of recurrent disease in individuals who have had previous thyroidectomy.

Aim of the study. Studying the morphological peculiarities of the thyroid gland and their impact from a clinico-pathological point of view.

Materials and methods. This study is based on a review of articles from open access databases: PubMed; NCBI; Research Gate; Academia.edu

Results. The morphology of the thyroid gland was classified into five groups by the authors for the purposes of this study. The groups were named P0–P4 with classification criteria as follows: P0 – No pyramidal lobe; P1 – Pyramidal lobe, wide base, narrow apex; P2 – Pyramidal lobe, base size same as top size (parallel strip of tissue); P3 – Pyramidal lobe, thin base with a bulbous upper portion; P4 – Pyramidal lobe completely separated from the thyroid (i.e. ectopic thyroid tissue above thyroid gland in pre-laryngeal location). Out of total number of 416 patients included in the study, 233 were females and 183 males. Pyramidal lobes were present in 90 patients (one patient was found to have two pyramidal lobes), yielding an overall incidence of 21%. The frequency of the subtypes was as follows: P1 – 28%, P2 – 32%, P3 – 12% and P4 – 20%. The patients' ages ranged from 17 to 89 (with an average of 48 years). Forty-one (46%) pyramidal lobes were found to arise from the isthmus to the left of the midline and 46 (51%) from the isthmus to the right of the midline; 2 (2%) arose on the midline. Size was recorded in longitudinal, transverse and AP dimensions. The longitudinal measurements ranged from 9 mm to 39 mm (mean 19 mm), the transverse measurement from 4 mm to 27 mm (mean 9 mm) and the AP from 1 mm to 12 mm (mean 3 mm).

Conclusions. The morphological features of the thyroid gland are of increased interest in terms of appropriate treatment and subsequent prognosis. It is important to remember that incomplete resection of the pyramidal lobe may result in post-operative hyperplasia of the gland itself, or recurrence of the primary pathology.

Key words: thyroid gland, pyramidal lobe

DEPARTMENT OF TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY

260. CLINICAL ANATOMY OF THE AXILLARY REGION

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Introduction. This research aims at the anatomical-clinical selective study of the anatomical structures of the axillary region, the vascular elements, lymph nodes of soft tissue intact and affected by some neoplasms, the aspect of these at high performance investigations like CT and MRI.

Aim of the study. The purpose of the work is to investigate from an anatomical point of view clinically the axillary region, which is rarely affected primarily, but is involved in many diseases of organs, vessels, soft tissues, lymph nodes, vicinity.

Materials and methods. As a study material, the results of the imaging investigations were served by CT and native and contrast MRI, angiography regime

Results. They were divided into three groups: 1. The appearance of soft tissues and lymph nodes, described in patients without diseases in the axillary region. 2. Lymphatic nodules in patients with diseases of the neighboring organs (mammary gland) 3. The study of blood vessels, their collaterals, their anatomical variety. These results revealed the involvement of the axillary lymph node groups in breast cancer, which are then to be surgically removed during surgery in the mammary gland affected by malignant tumors or for puncture-biopsy to determine the morphological form of the cancer and the degree of differentiation. The architecture of the axillary artery and its branches that change in cases of arterial thrombosis or compression.

Conclusions. This anatomical region had a particular importance for clinicians, images and morphopathologists alike. It is the area where inflammatory processes (lymphadenitis), hydrosadenitis, boils or abscesses can develop, and through the communication pathways that occur between it and the neighboring regions, the process can be spread. For this reason it is necessary to know the relationship and communications of the anatomical and neurovascular structures as well as the variations of the axillary artery with its branches. The imaging aspect of the axillary anatomical formations involved in a pathological process (tumor, inflammatory process, vascular injury), allows later to establish a more rational approach and surgical procedure.

Key words: axillary fossa, lymph nodes, collateral, mammary gland

261. CLASSIFICATION OF CERVICAL FASCIAE

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Introduction. Study of cervical fasciae represents major difficulties, because the authors did not synchronize over the time a common opinion about the fascia and terminology's

classification. In the manuals of anatomy in English, French and Russian the same formations are specified differently. Thus, the prevertebral fascia is determined by the French anatomists as being aponeurosis. English anatomists name it – “*alar fascia*” and the Russian literature, which is based on the classification given in the manual of V. N. Shevkunenko, considers that it is correct to name it *fascia prevertebralis*, which participates in the formation of the respective muscle sheaths. Taking this fact into account the neck fascia needs to be regarded through the practical approach related to the clarification of the ways of purulent propagations and elaboration of surgical approach methods. It is well known that it is difficult to establish and systemize the number of fasciae on the neck, the fact which is determined by the age, physical development, gender, method of investigation etc.

Aim of the study. Thus, the goal of this work is the elucidation of author’s priorities in the study, description and classification of cervical fasciae.

Results. The main cause of the divergences and contradictions in the description of the neck fasciae is determined by the lack of common concepts, generally accepted, about the structure of fascia and other connective-fibrous formations. That is why practically each connective-fibrous structure in the working field can be named (and it is frequently named) fascia, also the passion for the “fasciology” led to the fact that the term fascia was assigned even to typical adventitia – coverings of organs and sometimes even a portion of the organ covering, for example the pharynx (*fascia faringobasilaris*). Thus, the additional searching for the “correct” names of neck fasciae and the copyright in their description seem to be inopportune because of the “limitation status”, including the incertitude of the main concepts (tissue, fascia, aponeurosis, laminae, plates, etc.). Now the term of “fascia” is unanimously accepted, notwithstanding that it has an indicative character over a concrete structure, but it corresponds sufficiently to the existent idea about fasciae as connectivefibrous coverings of different expression and character – from dense fibrous to thin, lax, cellulous tissue.

Conclusions. Now, there are a lot of vaguenesses regarding the anatomical terminology, but these historical “mistakes” do not influence significantly the practice. And the “reconciliation” of the parties can be reached by the strict observation of the unique anatomic law – *Nomina Anatomica*.

Key words: divergences, description, neck fasciae

262. UTERINE ARTERY ANATOMY

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Introduction. In developing countries, the main cause of death of women in the postpartum period is uterine bleeding (50.2%). In some cases, in the fight against bleeding, it is necessary to remove the uterus in young women, which extremely negatively affects the demografic growth in our country and in the world. The study of options branching for arterial vessels of the uterus is not only of theoretical interest, but also of great practical importance. It is important to know the sources of blood supply to the uterus, not only normal, but also with possible abnormal variants of branching and the location of arterial vessels.

Aim of the study. It was to establish different division of branches of the uterine arteries on anatomical internal reproductive organs complexes (such as uterus, fallopian tubes, ovaries, branch of the internal iliac artery)

Materials and methods. The material for the study was the female internal genital organs 10 complexes (18–40 years) who died from diseases not related to pathology of the reproductive system. To fulfill the research goal, a set of methods was used, which included anatomical preparation, injection of the uterine arteries with subsequent corrosion. To study the spatial distribution of the arterial bed of the uterus, the vascular bed was injected through the uterine arteries using a syringe and cannula with an injection mass based on the self-hardening dental plastic Protacryl M followed by preparation of corrosive preparations. After injection of dental plastic through the uterine arteries, the uterus with fallopian tubes and ovaries was placed in an acid solution for one day.

Results. The uterus is supplied by two pairs of uterine and ovarian arteries, small branches of the ovarian arteries and arteries of the uterine round ligaments. In 60% of cases, the uterine arteries were branches of the front trunks of the internal iliac arteries. In a number of observations, the uterine artery was a branch of the non-obliterated part of the umbilical artery (27%), inferior vesical (3%), middle rectal arteries (2%), and in rarer cases it could depart with a common trunk with the umbilical (1.8%), internal genital (1.6%), upper gluteal (1.6%), lower gluteal (1.6%) and superior vesical arteries (1.4%). When analyzing the corrosive preparations of uterine arteries in mature age women, it was found that the uterine artery spirally rises along the uterine body, departing from it 0.2-0.9 cm, in the thickness of the lateral perimetrium. Throughout its length, the uterine artery formed branches of various shapes. The ascending uterine artery, in most cases, had bends in the frontal, sagittal, planes. At the level of the internal orifice of uterus, the uterine artery formed the largest number of branches. Uterine artery gave in the thickness of the uterus 10-15 branches of the first order, with a third of the branches moving from the convex surface of uterus, and most of it from the concave surface of the uterine artery. The branches of the ascending uterine artery, corporal arteries, penetrated the uterine wall in an oblique direction at the level of the internal orifice of the uterus, and at level of the body area in the transverse direction relative to the longitudinal axis of the uterus.

Conclusions. Identified different anatomical variation of uterine arteries, right and left sided, the same like anteroposterior asymmetry in the arterial blood supply of the uterus by corrosive bodies of the uterine arteries should be taken into account when performing surgical approaches on the uterus.

Key words: uterine artery, types of anatomical peculiarities

263. THE CLINICAL ANATOMY OF THE ARTERIAL COLLATERALS OF THE LOWER LIMBS

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Introduction. The purpose of this research is anatomical-clinical selective study of arterial vascularization of the lower limbs, development of arterial collateral, the impact of occlusive arteriopathy in their development and their appearance at CT-high performance imaging investigation.

Aim of the study. The anatomical-clinical study of the arterial collaterals of the lower limbs and their importance for maintaining the function of the lower limbs and preserving their anatomical

Materials and methods. As study material were the results of CT-imaging investigations with contrast, in angiographic regime and 3D reconstructions.

Results. 3 main aspects were demonstrated: 1. The appearance of the arterial circulation in the lower limb, as usual; 2. Changes induced by partial and total vascular obstruction with limb amputation; 3. Restoring vascularization from other arterial branches. These result have obviously been pointing out of the fact that the vascular insufficiency is a chronic process, with progressive structural changes, it show us different degrees of affectation – from the light calcified with unique stenoses to the total occlusion with limb amputation and the defining role of the collateral vessels through wich the blood flow is redirected and ensures the tissue perfusion.

Conclusions. Peripheral arterial occlusive disease presents a high risk of morbidity, affecting 10% of the world's western population the past 50 years. It affects complex the patient with the involvement of the physical life, mental life and social integration. These issues are of particular importance for clinicians and radiologist alike. The most common location of arterial obstructions is at the level of the superficial femoral artery. Ensuring vascularization through the collateral under certain critical conditions like interrupting or disrupting the blood flow through the arteries, is a mandatory condition for maintaining the function of the lower limbs and preserving their anatomical. The imaging aspect of the obstruction degrees allows the precise establishment of the rational surgical approach and procedure.

Key words: Lower limb, arterial vascularization, arterial collateral, peripheral arterial occlusive disease.

264. SURGICAL ANATOMY OF CHEST TRAUMA

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Introduction. Pathological changes that occur following thoracic trauma include the full spectrum of mechanical damage to thoracic tissues and organs - from bruises and bruises to the soft tissues of the thoracic wall to fractures of the ribs, sternum and thoracic vertebrae, pleura, lungs, bronchi, bronchi and the heart, large vessels, diaphragm, nerve trunks, esophagus and thoracic duct. These changes in tissues and organs refer both to direct injury occurring at the place of force application and to trauma to the ribs, lung tissue and master vessels.

Aim of the study. The study of the clinical anatomy of chest trauma began to be regarded as an independent problem until the end of the 20th century, even though the interest for the surgical treatment of chest trauma is pursued throughout the history of medicine. The purpose of studying this field served the need to develop diagnostic methods, to discover different mechanisms of the pathophysiological disorders that arose from the trauma of the chest and certain vital organs, such as the heart and lungs. Also an extremely important aspect is the knowledge of the anatomical characteristics of the chest, mediastinal organs and lungs, because to a certain extent they determine the nature of the trauma, the diagnosis but also the therapeutic tactic.

Materials and methods. Article: “What are the ten new commandments in severe polytrauma management?” - CW Kam, CH Lai, SK Lam, FL So, CL Lau, KH Cheung (World J Emerg Med, Vol I, No 2, 2010); Article: “Damage control orthopedics –when and why” – James H. Carson, M.D; Основы топографической анатомии – Д.Н.ЛУБОЦКИЙ; Множественные и сочетанные травмы – В.А.СОКОЛОВ;

Results. The functions of the internal thoracic organs are diverse, but the main ones are the breath and circulation of the blood. Cardiorespiratory disorders are the basis of all pathophysiological disorders in the case of chest trauma. These require emergency prevention and treatment. In the case of thoracic trauma, these conditions are most often interdependent and remain the main causes of death of each third victim with combined chest injuries, although 15% of the victims have no fatal injuries.

Conclusions. The severity of the condition does not depend so much on the trauma of certain organs, but on the disorders of vital functions caused by general pathophysiological mechanisms. Examples may be: shock (shock lung), acute heart failure, acute respiratory failure, bronchodilatory syndrome (key moment - edema, dyskinesia, and sputum bronchiolysis). Regardless of the cause of the trauma, the victims of thoracic trauma form several typical syndromes that determine the diagnosis, the treatment tactic and the nature of the typical complications. The main syndromes are hemothorax, pneumothorax, subcutaneous emphysema and mediastinal emphysema.

Key words: Chest cavity, trauma, chylothorax, hemothorax, pneumothorax, subcutaneous emphysema, mediastinal emphysema. Shock, acute heart failure, acute respiratory failure, bronchodilatory syndrome.

DEPARTMENT OF HISTOLOGY, CYTOLOGY AND EMBRYOLOGY

265. LYMPHATIC VESSEL DENSITY AND ITS IMPLICATIONS IN BREAST CANCER

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Introduction. Among females, breast cancer is the most commonly diagnosed cancer and the leading cause of cancer death. Lymph node metastasis is one of the most important survival predictor in patients with cancers, this being crucial for tumor staging and therapy planning. Studies suggest that metastasizing is directly correlated with the density of lymphatic vessels in the tumor itself and in the peritumoral area.

Aim of the study. The goal of our study was to study lymphatic vessels' distribution (intratumoral vs peritumoral areas) as well as the relationships between tumor lymphangiogenesis and various parameters (such as hormone receptors and HER2 status, patients' age, tumor grade).

Materials and methods. We analyzed 84 cases of breast carcinomas in terms of their molecular profile and lymphatic vessels' density determined in the intratumoral stroma (D2-40it) and peritumoral area (D2-40pt), using the lymphatic endothelium marker D2-40. The

relationships with different molecular subtypes of breast cancer and main clinical parameters were also analyzed.

Results. Maximal values of both D2-40it and D2-40pt were achieved in case of triple-negative breast carcinomas (19 and 17, respectively). For luminal A, a positive correlation was detected between D2-40it and ER ($r=0,611$, $p=0,012$) and a negative correlation between D2-40pt and age ($r=-0,533$, $p=0,033$). D2-40pt positively correlated with D2-40it ($r=0,676$, $p=0,011$) in HER2+ subtype and in triple-negative breast carcinomas ($r=0,631$, $p=0,028$). D2-40pt negatively correlated with age in triple-negative subtype ($r=-0,584$, $p=0,046$). Analyzing overall molecular subtypes, we have found a positive correlation between D2-40it and tumor's grade ($r=0,289$, $p=0,008$). Intratumoral lymphatic vessels' amount negatively correlated with age ($r=-0,242$, $p=0,026$), hormone receptors ER ($r=-0,339$, $p=0,002$) and PR ($r=-0,245$, $p=0,024$). In G2 and G3 tumors, D2-40pt correlated with D2-40it ($r=0,542$, $p=0,000069$ and $r=0,558$, $p=0,000206$ respectively). In case of G3 tumors intratumoral lymphatic vessels negatively correlated with ER+ carcinoma cells ($r=-0,406$, $p=0,016$) and patients' age ($r=-0,432$, $p=0,009$).

Conclusions. There are few data about interrelations between intratumoral and peritumoral lymphatic vessels in breast cancer. Intratumoral lymphatic vessel density is strongly influenced by the expression of hormone receptors. Our findings also suggest that lymphangiogenesis rate is higher in younger patients. The development of intratumoral and peritumoral lymphatic vessels is directly related.

Key words: breast carcinoma, D2-40, LVD, tumor microenvironment, molecular subtypes, ER, PR

266. NEUROHYPOPHYSIS: STRUCTURAL,PHYSIOLOGICAL AND CLINICAL ASPECTS

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Introduction. Much has been written regarding the ultrastructure of the human adenohypophysis, on the other hand, relatively little is available on the the neurohypophysis.

Aim of the study. To apprehend the purpose of this unique tissue; to explore the embryology physiology and pathophysiology of the neurohypophysis, vasopressin and oxytocin; to highlight developments on the neural basis of osmo-sensing mechanism; to describe vasopressin and oxytocin regarding the molecular biology and to underline some of the disease processes in which both the structure and functions of the those two hormones are involved.

Materials and methods. Analysis of literature and synthesis of scientific data from studies (microscopically evidence and clinical tryouts)

Results. The posterior pituitary is derived from the forebrain/prosencefalon during development and is composed predominantly of neural tissue. It lies below the hypothalamus, with which it forms a structural and functional unit: the neurohypophysis. The supraoptic nucleus (SON) is situated along the proximal part of the optic tract. It consists of the cell bodies of discrete vasopressinergic (VP) and oxytocin(OX) magnocellular neurons projecting to the posterior pituitary along the supraoptico-hypophyseal tract. The paraventricular nucleus (PVN)

also contains discrete vasopressinergic and oxytocic magnocellular neurons, also projecting to the posterior pituitary along the supraoptico-hypophyseal tract. The PVN contains additional, smaller parvocellular neurons that project to the median eminence and additional extra-hypothalamic areas including forebrain, brain stem, and spinal cord. Some of these parvocellular neurons are vasopressinergic. The neurohypophysis is the structural foundation of a neuro-humoral system coordinating fluid balance and reproductive function through the action of two peptide hormones: vasopressin and oxytocin. Vasopressin is the main endocrine regulator of renal water excretion, facilitating adaptive physiological responses to maintain plasma volume and plasma osmolality. Oxytocin is important in parturition and lactation. Data support a wider role for both peptides in the neuro-regulation of complex behavior. Clinically, deficits in the production or action of vasopressin manifest as diabetes insipidus. An understanding of the physiology and pathophysiology of vasopressin is also critical in approaching the diagnosis and management of hyponatraemia, the most common electrolyte disturbance in clinical practice.

Conclusions. The neurohypophysis represents a unique tissue having neural and endocrine characteristics and possessing ultrastructural features distinct from those of conventional endocrine organs such as the anterior pituitary, thyroid, pancreatic islets, etc. In contrast to these glands, the neurohypophysis consists from the processes of mature neurons, therefore, it is not capable of synthesizing hormones but only of their storage and release. On the other hand the hormones that it releases in the blood stream seems to have a higher impact on the physiological processes of human homeostasis and complex behavior, than it was originally thought back in the days.

Key words: Neurohypophysis, Oxytocin, Vasopressin

267. ONCOGENESIS – CONTEMPORARY THEORIES AND CONCEPTS

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Introduction. Nowadays, cancer is the second leading cause of death globally and it is estimated that in next years, the number of new cases is going to rise. So, this disease has a great impact on physical, emotional and financial aspects of everyone's life and it would be better to prevent its consequences than to bear them.

Aim of the study. Carcinogenesis may result from the action of different factors such as chemical, physical, biologic and/or genetic injuries that affect human cells. In order to discover new methods of treatment, it is important to know how cancer appears, what factors may accelerate this process and how malignant cells start to spread throughout the body.

Materials and methods. This review represents a synthesis of current information about carcinogenesis from online biomedical literature such as - journals and books, including more than 30 references.

Results. Cancer is a general term that describes a large variety of diseases. The common characteristic of this process is the transformation of a normal cell into a cancerous one. Oncogenesis is divided into three stages: initiation – when one or more stable cells are exposed to the action of a carcinogen factor; promotion – where the initiated cells start to expand by self-proliferation leading to abnormal growth; and progression – where the cells start to detach

from the primary tumor and to gain the property that allows them to invade other organs and tissues, forming metastatic growths. In the end of this process, a cancerous cell must be able to multiply under conditions that for a normal cell would not be possible. Angiogenesis and lymphangiogenesis have an important role for tumor growth and development of metastasis. Different types of cancer genes like oncogenes and tumor suppressor genes are also involved in cancer development. If these genes gain mutations, it may lead to abnormal cell proliferation and suppression of apoptosis. Several internal factors like age, genetic predisposition, sex, along with other extrinsic factors such as chemical substances, radiations, food, tobacco have an indisputable role in determining cancer risk.

Conclusions. All the accumulated knowledge about the development and progression of cancer must be used in order to develop more precise diagnostics and more effective and less toxic cancer therapies. The goal of contemporary medicine should be oriented to offer to every patient that suffers from cancer a therapeutic regimen that is tailored to his individual disease in an optimal way.

Key words: neoplasia, oncogenes, metastasis, angiogenesis

DEPARTMENT OF MORPHOPATHOLOGY

268. EPITHELIO-MESENCHYMAL TRANSITION PROCESS IN THE PATHOGENESIS OF EXTRAGENITAL ENDOMETRIOSIS

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Introduction. Epithelial – mesenchymal transition (EMT) endows cells with migratory and invasive properties, a prerequisite for the establishment of endometriotic lesions. The role EMT might play in the pathophysiology of endometriosis is still unknown. Therefore, we examined four markers for EMT in endometrium and endometriosis: E – cadherin + Vimentin, double reactions and simple reactions Twist and N – cadherin.

Aim of the study. Immunohistochemical assessment of the invasiveness potential of extragenital endometriosis lesions by investigating some of the specific markers (β -catenin / vimentin panel) of the epithelio-mesenchymal transition process (EMT), a process by which epithelial cells lose their polarity and contact with the polarity and contact invasive.

Materials and methods. During a period of five years (2012 – 2017) we analyzed 41 cases of extragenital endometriosis: appendix 5, colon 7, intestine 8, anterior abdominal wall after caesarean operation- 10, inguinal hernia – 6, umbilical hernia- 4, perineal region- 1. The material was processed according to the classic histological technique by inclusion in paraffin. The 3 μ m sections obtained were stained with Hematoxylin – Eosin and Masson's trichrome stains. Another sections were dewaxed, rehydrated and processed for immunohistochemistry using as primary antibodies monoclonal antibodies Vimentin and mouse monoclonal antibody N – cadherin, E – cadherin, Twist.

Results. Immunohistochemically, we aimed to change the immunophenotype from epithelial to mesenchyme in extragenital endometriosis by analyzing the most important markers of the

transition process. In endometriosis and endometrium E – cadherin, Vimentin, N – cadherin and Twist were expressed on protein level. Investigation of E – cadherin / Vimentin coexpression revealed a decrease in E – cadherin reactivity at the site of invasion of gastrointestinal endometriosis with an increase in reactivity to Vimentin together with the increase of the invasion pattern and the increase of the stage of the disease respectively. Twist transcription factor immunoexpression revealed a highly positive expression on the mesenchymal lineage, proving involvement of this transcriptional factor in the invasion process of endometriosis. N – cadherin was positive in the endometrial glands, showing their differentiation into a mesenchymal phenotype and their migratory potential.

Conclusions. The results of our study confirm involvement of the epithelial – mesenchymal transition process in the pathogenesis of extragenital endometriosis lesions, on the one hand, and they certify their invasive potential in these localizations, on the other hand.

Key words: endometriosis, extragenital, transition processes

269. STUDY OF MORPHOLOGICAL CHANGES THAT OCCUR IN THE KIDNEYS AND LIVER OF RATS UNDER THE INFLUENCE OF ACUTE STRESS WITH MEXIDOL CORRECTION

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Introduction. One of the major problems of medicine is the effective prevention and treatment of stress. Many organs and tissues of the body are adversely affected. However, the effects of stress and the correction of stress changes in the kidneys and liver were not given much attention by scientists.

Aim of the study. To establish at the morphological level the effectiveness of using Mexidol to correct changes that occur in the kidneys and liver of white rats under the influence of acute immobilization stress.

Materials and methods. Given the international principles of bioethics, 15 adult white male rats were selected for study. The I control group consisted of 5 intact animals, the II control group consisted of 5 animals that were exposed to acute immobilization stress and the III group consisted of 5 rats whose stress was corrected with Mexidol. A model of acute stress was reproduced by immobilizing animals for six hours. To correct stress changes Mexidol was injected once into the peritoneum weight 20 minutes before the fixation period. Animal euthanasia, macro- and microscopic examination of the kidneys and liver were performed. The staining of kidney and liver micropreparations with hematoxylin and eosin was performed according to the standard procedure.

Results. On examination of the kidneys and liver of rats II and III groups macroscopic changes were not detected. Microscopic examination of kidneys revealed widening of the lumen of the convoluted tubules and in some of them are homogeneous eosinophilic masses. In the cytoplasm of epitheliocytes are vacuoles with translucent fluid. Epithelial cell necrosis. In the peritubular vascular system are focal hemorrhages. Stress histologic changes of the liver are characterized by full-blood vessels and thrombosis of the interlobular veins. The central veins of the liver are full-blooded, the perisinusoid spaces are enlarged. The phenomenon of sledging

in most sinusoidal capillaries. In the perivascular and portal tracts is infiltration of immunocompetent cells. In some hepatocytes are karyopicosis and hydropic dystrophy. Under the capsule is focal collocation necrosis of hepatocytes. In group III rats with Mexidol correction revealed less pronounced stress changes in the kidneys and liver. The kidneys of rats of this group are characterized by focal changes of the sinuous tubules with swelling of epitheliocytes, in the lumen of individual tubules are homogeneous masses in a small amount. In some glomeruli is little plethora of capillaries and swelling of the mesangium. During the study of the liver is revealed that lobules and triads are preserved, the interlobular vessels are slightly full-blooded. Single hepatocytes around the central veins are characterized by hyaline-drip dystrophy, at the periphery of the lobules is hydropic dystrophy.

Conclusions. The results of the study directly indicate the appropriateness of using Mexidol as a nephro- and hepatoprotector in acute stress.

Key words: Mexidol, kidney, liver, stress, rat

DEPARTMENT OF HUMAN PHYSIOLOGY AND BIOPHYSICS

270. THE INFLUENCE OF LIGHT FROM GADGETS ON CIRCADIAN RHYTHM IN CHILDREN

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Introduction. Circadian rhythms are variations in physiology and behaviour that persist with a cycle length close to 24 hours. Such biological rhythms include the sleep and wake cycle, alertness, daily cycles of hormonal secretion (e.g., melatonin and cortisol, ghrelin and leptin), body temperature cycle and blood pressure regulation.

Circadian rhythms must be synchronized or entrained to the 24-hour day regularly. This process of entrainment occurs through regular exposure to daily exogenous environmental cues known as zeitgebers. The most potent zeitgeber is light that activates photoreceptors in the retina inhibiting pineal gland secretion of the sleep-promoting hormone, melatonin.

Polychromatic white light (white light enriched in blue) having a significant impact on this training.

Aim of the study. To explore the influence of screens light exposure on the circadian rhythm in schoolchildren, in particular on the quality and quantity of sleep.

Materials and methods. There were used “PubMed MEDLINE” database to select relevant articles published from 2010 to 2019, using the keywords: “technology use and biological rhythm (sleep)”, light exposure, electronic media and sleep/circadian rhythm.

Results. We identified 24 papers that have investigated the relationship between circadian rhythm/sleep and electronic media in school-aged children, including television viewing, use of computers, electronic gaming, and the internet, mobile telephones, and music. There have been identified behaviour and sleep-related problems because of internet and telephone overuse, as well as social network activities, game consoles and television viewing, the number of devices in the bedroom and turning-off time. The spectral profile of light emitted by screens impacts on circadian physiology, alertness, cognitive performance levels but also for weight gain, metabolic disorder, depression, mood disorders, cancer and heart disease.

Conclusions. Many schoolchildren used multiple forms of technology late into the night without prudence or restrictions. Subsequently, their ability to stay alert and fully functional throughout the day was impaired.

Both parents and schoolchildren should be informed about the influence of technologies on sleep, effects of blue light exposure, sleep hygiene and early adoption of healthy sleep habits and prevent sleep problems.

Key words: light, gadgets, circadian rhythm, children

271. BLUE LIGHT EFFECT AND ETHNICITY - IN SHADOW OF SKIN PIGMENTATION AND EYE COLOUR

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Introduction. Blue light [wavelength between 400-495nm], from digital sources and artificial lighting in the evening, hence inhibit normal secretion patterns of melatonin causing circadian rhythm and sleep disturbances. There is an inversely proportional relationship between blue light exposure and melatonin secretion. In the same time, blue light can be absorbed by the pigmental layer of the retina that contains melanin. Thereby, the quantity of blue light that will rich the retina can be influenced by the amount of melanin from the eyes.

Aim of the study. The purpose is to appreciate the circadian rhythm and sleep disturbances and depth of blue light effect on melatonin secretion on different ethnical groups, integrating skin and eye pigmentation effects on the same matter;

Materials and methods. An analysis of the latest scientific sources has been carried out using the PubMed search engines, 'HINARI' and Google Academic with the help of keywords: blue light, ethnicity, skin pigmentation and eye colour, sleep quality, sleep consistency, sleep duration.

Results. The role of ethnicity in most aspects of human health is well documented. An example is the inefficiency of certain drugs used in asthma treatment in certain racial groups. Other studies determined a decrease in prevalence and incidence of Parkinson Disease in Americans of African descent compared to Caucasians. Also, shorter sleep was reported in black than in Asian, in Asian than in Hispanic/Latin and in Hispanic/Latin than in White. More sleep quality disturbance was reported in Black than in Asian and in Asian than in Latin. One of the explanations of the influence of ethnicity on sleep is the amount of melanin in the eyes. Some studies have shown that physiological responses to light depend on eye colour and that intraocular light scattering is higher in blue-eyed Caucasians. The percentage of suppression of melatonin secretion two hours after the start of light exposure was significantly more abundant in light-eyed Caucasians than in dark-eyed Asians. In the same time, in a comparative study which analysed the influence of light treatment in Seasonal Affective Disorder (SAD), was found that following six weeks of light therapy, African-American participants with SAD had a lower remission rate than Caucasian participants. Researchers suggested that higher melanin content of the pupil and retinal pigment epithelium in African-Americans may reduce the retinal illuminance in African-American SAD patients during light treatment hence reducing the effect of light therapy. These results suggest that the sensitivity of melatonin to light suppression is influenced by eye pigmentation and can be related to ethnicity, respectively.

Conclusions. In the light of the study, it is evident that eye and skin pigmentation are indeed concerned with melatonin activity and blue light effect varies as many parameters of melatonin

secretion and sleep are subject to variations in different racial /ethnic groups. In times where individualised medicine should be pampered more, taking into account the influence of light on the human body concerning the eye and skin pigmentation can lead to a better understanding of the circadian and sleep processes.

Key words: blue light, ethnicity, skin pigmentation and eye colour, sleep quality, sleep consistency, sleep duration.

272. THE ROLE OF PERSONALITY TRAITS IN SLEEP QUALITY

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Introduction. It is well accepted that disturbed sleep is influenced by a number of predisposing, precipitating, and perpetuating factors, and these may be biological, environmental, behavioural or psychological in nature. Personality may act as a predisposing, and potentially perpetuating factor, and literature concurs with the fact that disturbed sleep is related to increased neuroticism, internalization, anxious concerns and perfectionism.

Aim of the study. To determine what maladaptive personality traits are the most frequently present among patients with disturbed sleep.

Materials and methods. In this study participated 56 patients (age range 25-71 years) that have addressed themselves to the Department of Somnology from the Institute of Neurology and Neurosurgery „Diomid Gherman”. They completed the Pittsburgh Sleep Quality Index (PSQI). This self-reported instrument evaluates sleep quality for the last month and the Personality Inventory for DSM-5 (PID-5), a 220-item self-rated personality trait assessment scale for adults, that measures maladaptive personality traits.

Results. From 56 patients, 35 of them (63%) showed poor sleep quality and 21 (37%) good sleep quality. From 25 personality trait facets assessed of PID-5, higher average scores were observed in the following facets: Anxiousness (in 7% of cases), Attention Seeking (7%), Emotional Lability (7%), Hostility (7%), Intimacy Avoidance (9%), Separation insecurity (9%), Suspiciousness (9%) and Rigid Perfectionism (11%). The only trait domain detected was Negative Affect.

Conclusions. The most prominent personality characteristic observed in our study is Rigid perfectionism. This may be because the maladaptive form of perfectionism includes concern over mistakes and excessively high personal standards and is associated with worry and rumination. Worry and rumination at bedtime are, in turn, assumed to lead to sleep onset and sleep maintenance difficulties. The predominant domain of Negative Affect detected in our study shows that people with sleep complain have frequent and intense experiences of a wide range of negative emotions: instability of emotional experiences and mood, feelings of nervousness, tenseness, fears of being alone due to rejection, frequent angry feelings, feelings of being mistreated, avoidance of interpersonal attachments. These outcomes provide objective support for further analytical studies in order to find out if there is a significant difference between good sleepers and bad sleepers in correlation with these personality traits.

Key words: sleep quality, personality traits, PSQI, PID-5

273. SLEEP QUALITY AND MOOD DISTURBANCES IN RELATIONSHIP WITH ANXIETY LEVEL IN MEDICAL STUDENTS FROM THE STATE UNIVERSITY OF MEDICINE AND PHARMACY OF THE REPUBLIC OF MOLDOVA

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Introduction. Anxiety, mood and sleep disturbances are frequent among medical students. Their daily routine and academic burden can explain these. Also, we assume that medical students don't put their sleep as a priority, and they even neglect it without knowing about the hazardous consequences to their life.

Aim of the study. The purpose of this study was to establish the relationship between sleep quality, stress level, depression level, degree of physical training and anxiety level in medical students.

Materials and methods. The sample included 32 medical students (22 males, mean age 21.4 (SD±2,87)) from the State University of Medicine and Pharmacy of the Republic of Moldova. The sample was divided into two groups according to the anxiety level: 22 students (69%) (mean age 22 years, 18 males) with mild anxiety (MAG) and ten students (31%), (mean age 20 years, 4 males) with severe anxiety (SAG). The anxiety, depression and degree of physical training were assessed by Hamilton, Beck and Dijon inventory, sleep quality by The Pittsburgh Sleep Quality Index questionnaire

Results. The students from SAG in comparison with MAG presented poor sleep quality (8.6 vs 4.3, $p=0.0003$), because of day dysfunction due to sleepiness, overall low sleep efficiency and also they were using sleep pills once or twice a week. Withal SAG presented mild mood disturbance vs without in MAG (13.1 vs 6.3, $p=0.002$) and a lower physical activity (12.9 vs 18.59 $p=0.016$).

Conclusions. One-third of students have severe anxiety associated with poor sleep, mild mood disturbance and lower physical activity. These factors could have a negative outcome on the quality of students' life and academic performances. At the same time, if poor sleep is not coped, in the future medical errors can develop during medical activities. Medical students should be aware of these omnipresent factors in their life and in collaboration with the student associations, and university staff should start awareness campaigns orientated towards the improvement of sleep quality, anxiety and mood disturbances as well as the level of physical activities. Our recommendation for better sleep is to maintain a proper sleep schedule, be aware of what you eat and drink, create a restful environment, make an effort to include physical activity, develop your hobbies, try to resolve your worries or concerns before bedtime, limit exposure to bright light in the evenings and try to avoid electronic devices before bedtime. *Medice (discipulus), cura te ipsum!*

Key words: Sleeping quality, disturbances, anxiety, depression, medical students, stress, physical activity.

274. AUTONOMOUS CHANGES IN PATIENTS WITH BORDERLINE PERSONALITY DISORDER DURING THE HYPERVENTILATION TEST

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Introduction. Borderline personality disorder (BPD) affect about 1-2% of the general population and is the most common personality disorder in clinical practice. Key features of this personality disorder are emotional lability and impulsivity that represent the impairment of inhibitory control, ability to inhibit and regulate emotional responses. Heart rate variability (HRV) - the variation in duration between consecutive heartbeats - is widely accepted as a psychophysiological marker of emotional regulatory capacity and inhibitory control. Parasympathetic modulation of heart rate is faster while sympathetic effects are much slower. **Aim of the study.** The purpose of the study is to determine the autonomous modifications in people with BPD by studying the variability of the heart rhythm both at rest and in hyperventilation.

Materials and methods. The study involved 95 people between the ages among 19 and 60 years old, using the PID-5 personality disorder questionnaire. All subjects were divided into 2 groups: control group (n = 64), group of people with borderline BPD personality disorder (n = 32). The experimental protocol included the recording using the Biopac MP-36 computer system, the electrocardiogram in the second standard lead in 3 functional samples: resting (R) - 5 minutes, hyperventilation (HV) - 3 minutes and post-hyperventilation (post-HV) 5 minutes. The primary data processing was performed with the program Kubios HRV Standard (version 3.2.0, 2019).

Results. As a result of studying HRV parameters in R probe, there were no significant statistic differences detected between the control group and BPD group. Similarly, in the studying of HV, except for the decrease of LF/HF ratio, as a sign of sympathetic and parasympathetic nervous system activation in the BPD group. The comparison of obtained data within the groups, denotes that the LF values in the BPD group are not higher than 20,6% ($p < 0,01$), and HF values lower than 19,5%, compared to post HV probe in relation to R. It means that the BPD stimulates more sympathetic activity and reduces the parasympathetic one.

Conclusions. Vagus mediated heart rate variability is strongly associated with emotional regulation and is at the basis of individual differences in the perception of emotional stimuli. It predicts emotional instability in daily life and is inversely proportional to the difficulties in emotional regulation in people with BPD.

Key words: Heart rate variability, personality disorder, PID-5

275. THE RATE OF PERSONALITY DISORDES AT HEALTHY YOUNG PEOPLE

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Introduction. DSM-V provides an evaluation system of: “Patient-Reported Outcome Measurement Information System” (PROMIS) which consists in a small questionnaire, which evaluates patient status in relation with national rules, providing a score on two levels of evaluation: clinician’s evaluation and patient’s evaluation. The Personality Inventory questionnaire for DSM-V (PID-5) allows detection features and personality disorders, which represents some racial and ethnic factors in determining a mental disorder.

Aim of the study. The evaluation of personality disorders with the help of the instrument from international scientific circuit (PID-5) in order to implement in clinical practice the diagnostic mode of personality disorder according to the included criteria in DSM-V.

Materials and methods. The study was conducted on a sample of 61 students of USMF, 83,6% women and 16,4% men and 22 students of ASEM - 88,9 women and 11,1% men, with a age between 18-24 years, during the 2015-2016 years. All the persons have completed the questionnaire PID-5, translated, adapted and validated with the Republic of Moldova population. This questionnaire evaluates non-adaptive features in the third Section from DSM-V and includes 220 of elements of personality report, touching the 25 features of personality. Each feature includes 4-14 elements. The elements PID-5 are evaluated on a scale of 4 points, from 0 to 3, according to this points it’s established a score, which is more than 2 and is indicative index of one of those 6 types of personality disorders: Antisocial, Borderline, Schizotypal, Avoidant, Obsessive-compulsive and Narcissist.

Results. The obtained results denote that between the ASEM students were not detected the personality disorder through the men, but trough the women were detected persons with the personality disorder (4,54%) of borderline type, schizotypal, avoidant and obsessive-compulsive. Between the USMF students, the prevalence rate of personality disorder through the women, were as follows: the borderline types - 1, 96%, schizotypal - 2%, avoidant - 9,8%, obsessive-compulsive - 11,8% and narcissist - 3,9%; through the men were not detected the personality disorder. Between the USMF students prevails the obsessive-compulsive and avoidant type, the rate of personality disorders is higher through the students of USMF than through the students of ASEM.

Conclusions. The results of the current study are supported by the results of other previous research and confirm that the PID-5 represents a dimensional model for evaluation and understanding of personality disorders for the clinical and scientific purposes.

Key words: DSM-V, PID-5, personality disorders.

276. PROTEIN AND IONIC CHANNEL TRANSCRIPTS OF THE MENINGES- EXPERIMENTAL STUDY AT UNIVERSITY OF SONORA, MÉXICO

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Introduction. The meninges are three protective layers of tissue, which have a crucial importance in central nervous system. The meningeal tissue functions primarily to support the central nervous system (CNS) while maintaining homeostasis of the neuraxis, but recently discovered information suggests a role far beyond mechanical protection. Neural communication in the brain is based on homeostasis and the dynamics of intracellular Ca²⁺. In neurons, the release of neurotransmitters is controlled by presynaptic Ca²⁺ entry, while the

formation of memory traces depends on the post-synaptic transients of Ca²⁺ in the dendritic spines.

Aim of the study. This work provides an experimental study of the cranial meningeal function and ultrastructure that should change the view of meninges as a merely protective membrane. Considering the anatomical distribution in the CNS, it can be observed that the meninges largely penetrate inside the neural tissue. Thus, meninges may modulate most of the physiological and pathological events of the CNS by the presence of the ionic channels and proteins. This extensive experiment on laboratory animals will offer a different view of meninges' multiple roles in the context of a functional network with the neural tissue.

Materials and methods. All experiments were made according to the ethical policies for animal care and handling of the University of Sonora, Mexico. The meningeal tissue was collected from four 2 months-old (date of birth 11.06.2019) albino male rats. The experimental procedure was composed of: cell culture, total RNA isolation and reverse transcription protocol, reverse transcription and cDNA synthesis, PCR, Gel electrophoresis.

Results. Through this study we evaluated the expression of potassium channels type Kir, K_v, BK. The meningeal tissue expressed the subunits Kir 1.1, Kir 3.3, Kir 4.1, Kir 6.2 and channel type BK_a.

Conclusions. The results obtained suggest that meningeal cells have an important repertoire of potassium channels and calcium-mediated intracellular signaling mechanisms that should be studied pharmacologically and molecularly to help understand meningeal cell physiology and its contribution to brain cell communication.

Key words: Potassium channels, meninges, central nervous system, communication

277. HEART RATE VARIABILITY IN PEOPLE WITH BORDERLINE TYPE OF PERSONALITY

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Introduction. The incidence growth of the cardiovascular disease associated with psychiatric pathologies has led to increased attention on the autonomic nervous system. Heart rate variability (HRV) is considered as a measure of autonomic nervous system balance, and therefore it may provide a quantification of the physiological changes associated with mental illness. HRV cut is associated with a variety of psychological conditions and dimensions such as social status, executive function and emotional regulation. Borderline personality disorder (BPD) with a high rate of cardiovascular mortality, it is also characterized by emotional instability, which makes it ideal for studying heart rate variability.

Aim of the study. The purpose of the study is to determine autonomous changes to people with borderline personality disorder by studying the variability of the heart rate both during the break and in the pain test.

Materials and methods. The study was performed on 103 people, psychometric test, which preceded the recording of cardiac parameters, was realized with the help of the Personality Disorders Test (PDT) (Personality Inventory for DSM-5, PID-5). Thus, based on the results obtained from the PID-5 test, people were divided into 2 groups, the first-control group - 69 people (N = 69), the second group BPD- 34 people (N = 34). The protocol of the experiment

included the recording of the electrocardiogram using the computer system Biopac MP-36 during the break repose (R) - for 5 minutes; Pain test (P) - 3 min; post-pain (pP) -5 minutes. The primary data processing was performed using the program "Kubios HRV Standard (version 3.2.0, 2019).

Results. The HRV parameters of the spectral analysis (Fourier), including the LF components, the low frequency spectral variation as an index of the sympathetic modulation and the HF the high frequency spectral variation as a primary factor in the evaluation of the vagal activity, do not show significant differences between the both groups included in the study. Within the second group, in pP the low frequency (LF) increase with 16.3% in pP compared to R, ($p < 0,01$) and with 12% ($p < 0.05$), compared to P. This denotes a tendency towards dynamic emphasis on the sympathetic vegetative nervous system activity. Dynamic evaluation of the average values of the high spectral frequency (HF) variation is lower with 15.5% in pP than R ($p < 0.01$); and with 13% lower pP compared to P test, ($p < 0.05$).

Conclusions. The differences between the HRV parameters in the second group recorded in the functional tests could probably be explained by the high activity of the structures involved in the affective control of pain in people with borderline personality disorder.

Key words: Borderline Personality Disorder (BPD)

278. PREDICTIVE SCORES IN TRAUMA. CONTROVERSY

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Introduction. More than 50 score systems have been published for the classification of injured patients in emergency or intensive care medicine. A quantitative method for measuring trauma severity has many potential applications: patient triage, a common terminology about injuries severity, prognosis assessment, trauma care audit and epidemiological.

Aim of the study. To analyze the main scoring systems used in today's trauma care and to evaluate their efficiency in predicting the injury severity. To analyze specific alterations made to level up the sensibility and specificity of a score on different populations and to find different studies where trauma scores are being compared. And finally, the aim of the study is to find the advantages and disadvantages of different trauma scores.

Materials and methods. A systematic review of the literature using computer searching of Hinari Access to Research for Health Program database using PubMed Entre interface and Scopus. We have selected articles about the main scoring systems used in today's trauma care, as well as studies where they a being compared or where modifications are made to trauma scores.

Results. Trauma scores were introduced more than 30 years ago, for assigning numerical values to anatomical lesions and physiological changes after an injury. More than 50 score systems have been published for the classification of injured patients in emergency or intensive care medicine. This large number indicates that the prediction of outcome is and never will be perfect because the severity of the injury is complex and difficult to quantify. There is no consensus between the major trauma registries regarding the probability of survival estimation

in major trauma patients. The German, United Kingdom trauma registries scores are based on the largest population, with demographics updated to the nowadays European injury pattern.

Conclusions. Even if they are imperfect, trauma scores are essential tools in trauma patients' management and research. Using large national databases allow better research, validation and development of scoring systems, and there is a need of the creation of an international database and further research to create a score perfect for each population.

Key words: trauma, score, GCS, ISS, TRISS

279. PARAMETERS OF THE RESPIRATORY PATTERN IN PATIENTS WITH BORDERLINE TYPE PERSONALITY DISORDER

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Introduction. The study of the changes of the respiratory pattern under the influence of physiological or pathological factors allows the thoroughgoing of the knowledge in the field of physiology of systemic interactions, as well as in the field of the physiopathology of functional psychosomatic diseases. It should be taken into consideration the high prevalence of borderline type personality disorder in primary health care and up to 20% in specialized psychiatry centers, alongside with the considerable insufficiencies caused to patients. Thus, the study of respiratory pattern could offer to physicians, especially at the primary level, an alternative to the pharmacological treatment, by correcting the psychophysiological mechanisms of systemic dysfunctions development.

Aim of the study. This study is focused on evaluating changes in the respiratory rhythmogenesis in people with borderline type personality disorder, by analyzing the respiratory pattern, and on the clinical approach of the obtained results.

Materials and methods. In the study were involved 95 people aged between 19 and 60 that were given a questionnaire about personality disorders PID-5. Based on the results, the subjects were divided into two groups: the control group (n = 64) and the group of people with borderline type personality disorder BPD (n = 32). The experimental protocol included the parameters of the respiratory pattern in 3 functional samples, recorded with the VisuResp plethysmograph: resting (R) - 5 min, hyperventilation (HV) - 3 min and post hyperventilation (postHV) 5 min.

Results. In the R sample of the BPD group, was found a decrease of the following parameters of the respiratory pattern, compared to the control group: the current volume by 21%, the duration of the inspiration with 10.3%, the duration of the respiratory cycle by 12.1%; however, in the same sample, the breathing frequency was increased by 11.5%. In the postHV sample, the statistical differences in the parameters of the respiratory pattern in the PBD group, compared to the control group, are also observed: increased current volume with 21.5%, duration of the expiration by 52.1% and average inspiratory flow with 13.1%, but decreased duration of inspiration by 7.2% and the total duration of the respiratory cycle by 33.9%. The increased respiratory flow due to the increased current volume, explains the decrease of the CO₂ concentration by 17.3%. Therefore, we found out that hyperventilation has a more substantial impact on the respiratory pattern in people with BPD, compared to the control group.

Conclusions. People with BPD breathe in smaller volumes, but more frequently compared to the control group, without differences in respiratory flow. The hyperventilation sample highlights the changes in the respiratory pattern of healthy persons compared to people with borderline type personality disorder, probably due to changes in the cortical and subcortical structures that are responsible for the voluntary and involuntary control of breathing.

Key words: Borderline Personality Disorder, respiratory pattern, PID

280. THE IMPORTANCE OF LIGHT AND DARKNESS IN THE DEVELOPMENT OF THE CIRCADIAN RHYTHM

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Introduction. Currently, in the world, nights are extremely illuminated, whereas during daytime people are exposed to dim light conditions. Exposure to artificial light at night results in a disruption of the circadian system and melatonin suppression associated with an increased prevalence of numerous diseases.

Aim of the study. The aim of this review was to assess the current information regarding the influence of light and dark on the secretion of human melatonin.

Materials and methods. A broad English search was undertaken of the PubMed and Scopus database for the terms "melatonin suppression", "melatonin and light", articles from 2010-2020 were selected.

Results. Studies have shown that light-induced nocturnal melatonin suppression may be affected by intensity (350-1000 lx was sufficient to significantly suppress melatonin levels), wavelength (459 nm to 484 nm), time of exposure (5 seconds-6,5 h), temperature (6500k induced greater suppression). Appropriately timed light exposure has been shown to phase-shift human circadian rhythms. More prolonged exposure to light during the day (summer, bright environment) might reduce melatonin suppression at night, blue light having a more acute preventive impact. Light influences melatonin's functions, increasing the risk for diabetes type 2, heart disease, obesity, some types of cancer, depression, bipolar disorders.

Conclusions. Further research assessing the impact of light on melatonin secretion should be undertaken considering the following factors: alcohol consumption, age, eye color, posture, phase of the menstrual cycle, administration of oral contraceptives, physical exercise, pupil size, sleep pattern and clearly indicating the details of the experimental protocol.

Key words: melatonin suppression, light, circadian rhythm, light at night

281. THE CIRCADIAN RHYTHM – THE MEDICAL AND SOCIAL IMPORTANCE

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Introduction. The circadian rhythms represent endogenously generated rhythms of 24-25 hours ensuring the cyclicity of physiologic and behavioral processes within the body. Their study value resides in a better understanding of the homeostatic activity of the organism as well as how their disturbances induce diverse pathogenetic pathways affecting various systems. A wider knowledge about how everything in our body is synchronized, will ensure us with more efficient treatment schemes and the development of chrono-pharmacotherapy.

Aim of the study. The purpose of this study is to highlight the significance of respecting the circadian rhythms by evaluating the circadian component of the sleep-wake cycle and its impact on the physical and psychological state of first year medical students at the end of the study year.

Materials and methods. At the end of the study year 2018-2019, 55 students from the Faculty of Medicine N°1 of the *Nicolae Testemitanu* State University of Medicine and Pharmacy filled a self-administered questionnaire, which included a general data section and four tests: Pittsburgh Sleep Quality Index, Beck, Hamilton and Dijon. These tests helped in assessing their lifestyle particularities, sleep quality as well as degree of anxiety, depression and physical development.

Results. Among the participants, 11 out of 19 students that use to go to sleep before 00:00 got a PSQI<5, only 13 out of 36 registering a PSQI>5. Those registering a Hamilton score higher than 4 tended to sleep fewer hours scattered other a day (P=0,001). On the other hand, a less depressive state (<9 on Beck scale) was observed in students having an irregular sleep pattern other 24 hours (P=0,0009). Dijon test-based results suggest a higher degree of physical development if they used to get to sleep after midnight.

Conclusions. The study proves disorganized lifestyles modifying the circadian rhythms induce over time alterations in homeostasis affecting both physical and mental state. In order to ensure higher life quality standards and better medical practice, regulated daily habits according the biological rhythms are encouraged.

Key words: Circadian rhythm, sleep-wake cycle, sleep quality

282. SLEEP QUALITY AND SLEEP HABITS IN HIGH SCHOOL STUDENTS

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Introduction. Good sleep quality is an essential premise for an efficient daily activity. High school students, due to their adolescence age and intensive mental activity, need 8-10 hours of sleep. They also experience some physiological age problems such as late melatonin secretion leading to the difficulty to fall asleep and to wake up in the morning. The overusage of different devices (cell phones, computers, etc.) is known to disturb the process of falling asleep.

Aim of the study. To evaluate the sleep quality and sleep habits of urban high school students.

Materials and methods. The study consisted of an anonymous on-line questioning of high school students (grades 10-12), aged 15-19 years, from 7 lyceums of Chisinau and Balti. The questionnaire included: the Pittsburgh Sleep Quality Index (PSQI), the Epworth Sleepiness Scale (ESS), the Dijon Physical Activity Score (DPAS) and a questionnaire about anthropometric and demographic data.

Results. One hundred eighteen responders completed the study with a mean age of 17 ± 1.1 years, male to female ratio 1:2.6 and mean body mass index 19.6 ± 2.1 . The mean PSQI score was 7.2 ± 0.5 , and the prevalence of “poor” sleepers (PSQI score >5) was 69.5% (82/118). Sleep quality during the past month was assessed by the responders as “fairly good” in 55.9% (66/118), “fairly bad” in 38.1% (45/118), and “very bad” in 5.9% (7/118). The mean time of actual sleep was 6.5 ± 0.9 hours, 41.5% (49/118) slept less than 7 hours per day, and 98.3% (116/118) went to bed after 10 PM. 96.6% of participants (114/118) declared the usage of the cell phone before bedtime, 66.9% (79/118) - the consumption of coffee and energizers after 5 PM and 45.8% (54/118) declared eating carbohydrates after 7 PM. The prevalence of smokers was 10.2% (12/118). The mean ESS was 6.9 ± 0.6 , but in 84.7% (100/118) of participants was registered higher normal daytime sleepiness (6-10 points). The responders characterized their physical activity as “zero” in 14.4% (17/118), “low” in 24.6% (29/118), and “medium” – in 61% (72/118).

Conclusions. In about half of the high school students, the sleep quality was bad and very bad. Every third high school student slept less than 7 hours per day, and every second one had poor sleep habits (low physical activity, carbohydrates overconsumption, cell phone usage). This situation can negatively influence cognitive performances and life quality in high school students. For them, their parents and teachers should organize an awareness program about the importance of sleep hygiene and sleep quality for good quality of life and academic performances.

Key words: sleep quality, sleep habits, high school student

283. MOLECULAR, NEUROCHEMICAL AND NEUROPHYSIOLOGICAL MECHANISMS OF MEMORY

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Introduction. Learning and memory have proven to be fascinating mental processes because they address one of the fundamental features of human activity: our ability to acquire new informations and to retain it over time in memory. (Kandel ER, 2001). The brain has to process a continuous input from our sensory organs and at the same time it must be able to store memories, sometimes even for a lifetime. One of the fundamental questions in memory research is how our experiences of life can persist over time. What is the cellular foundation of this long-term information storage of neurons in neuronal networks, which is so important for humans? It is generally acknowledged that the memory processes are the result of the interplay between synaptic plasticity and orchestrated network activity that finally culminates in the long-term storage of information. Overall, information storage starts with the encoding of new information and progresses to the short-term memory. At this stage the engram might be either consolidated for a lifetime, destabilized, or restabilized in the course of memory retrieval. These neuronal dynamics start and end with synaptic and cellular plasticity and can be observed at the behavioral level (Korte M, Schmitz D, 2016). The formation of long-term memory involves gene transcription, protein synthesis and synaptic plasticity dynamics. This plasticity is dependent on a well-regulated program of neurotransmitter release, postsynaptic receptor activation, intracellular signaling cascades, gene transcription, and subsequent protein

synthesis. In the last decade, epigenetic markers like DNA methylation and posttranslational modifications of histone tails have emerged as important regulators of the memory process. (Zovkic IB et al, 2013).

Aim of the study. This review describes cellular processes of synaptic plasticity, particularly functional and structural changes and events that are important for the initial memory acquisition, as well as mechanisms of short-term and long-term memory storage.

Materials and methods. This is a review articles of human studies, clinical trials, bibliographies and books from databases like PMC, PubMed, Elsevier, Wiley Online Library.

Results. The long-lasting memory storage needs the synthesis of a specific set of proteins, this is an elegant way to solve the problem of how a neuron with 10,000 synapses can maintain changes in a few specific synapses without affecting others.

Conclusions. For the past 40 years, the studies into the neural basis of memory focused on the molecular and cellular basis of activity-dependent plasticity. Further progress in examining the conceptual foundation of memory will require an approach that takes into consideration the importance of timing events in the CNS on every level of complexity.

Key words: synaptic plasticity, memory consolidation, information storage, cell signaling, long-term potentiation

284. THE IMPORTANCE OF UMBILICAL CORD INSERTION SITE FOR THE PHYSIOLOGICAL DEVELOPMENT OF PREGNANCY

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Introduction. The study of the variability of the umbilical cord insertion site brings a further understanding of the pregnancy's physiological development, as well as it could help in choosing the best strategy for birth-giving. It should be highlighted that annually 4000 deaths of newborns worldwide are caused by the umbilical cord pathology. Additionally, the pathology of the umbilical cord is present in 30% of pregnancies carried out until the term. Therefore, knowing the insertion of the umbilical cord in the placenta could help the obstetricians in having an individual approach to the pregnancy and the actual birth, in order to prevent complications and abnormalities.

Aim of the study. This study is centered on the correlation between the type of umbilical cord insertion in the placenta and the physiological development of the pregnancy, but also on the obstetrical importance of the obtained results.

Materials and methods. The data of this study were collected from the medical records of 4010 women aged between 15 and 46 that gave birth at the Public Health Institution "Institute of Mother and Child" in 2014. According to the results, the subjects were divided into 4 groups, by the type of the insertion of the umbilical cord: 1st group - normal insertion, central and eccentric (n = 3995), 2nd group - velamentous insertion (n = 11), 3rd group - marginal insertion (n = 5) and 4th group - furcate insertion (n = 0). The experimental protocol included the abnormalities presented by the fetus and the occurred complications during pregnancy/birth-giving, correlated with the types of umbilical cord insertion.

Results. Central and eccentric types of umbilical cord insertion represent 99.6% and are not correlated with any pathologies of the pregnancy, birth-giving process, or fetus. On the other

hand, the velamentous insertion represents 0.27% and the marginal insertion - 0.12%. Both of them are associated with massive blood loss at birth, hemorrhagic complications in the antenatal period, miscarriage, hypotonia and cyanosis in the newborn, difficulties in approaching the birth and sudden intrauterine death of the newborn caused by hypoxia. Furcate insertion of the umbilical cord was not found, because it has the lowest incidence, as other studies have shown.

Conclusion. Even if the incidence of the pathological types of the umbilical cord insertion is low, the associated abnormalities are severe and must be taken into consideration. Thus, punctilious and continuous monitoring of the development of the pregnancy, including the analysis of the insertion type could help the obstetricians in providing professional medical assistance. It should be said that the formation of the umbilical cord is finished at 7 weeks of pregnancy. So, by using an ultrasonographic examination in the 1st trimester, between 12 and 15 weeks, it is possible to determine the insertion type of the umbilical cord. To sum up, all the necessary precautions can be taken in time and pregnancy/birth-giving can occur physiologically, with no harm to the mother and fetus.

Key words: Physiology, obstetrics, umbilical cord, development, pregnancy.

DEPARTMENT OF PATHOPHYSIOLOGY AND CLINICAL PATHOPHYSIOLOGY

285. PLACEBO AND NOCEBO EFFECTS - A SYNTHESIS OF MAIN UNDERLYING MECHANISMS

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Introduction. Although the effects of placebo have been known in medicine for several centuries, the research of the underlying mechanisms has developed relatively recently. Consequently, in the last decades, numerous studies and researches have been published, most of them focused on symptoms such as pain, fatigue, nausea and itching.

Aim of the study. To disclosure the main mechanisms underlying the placebo and nocebo effects.

Materials and methods. The study was performed in the base of reviews of various researches and scientific materials (articles in specialized journals, monographs and articles on the Internet etc.) that refer to placebo/nocebo effects description and observation.

Results. The classical conditioning theory and the response expectancy model were considered for a long time the most accepted theories explaining the underlying processes of placebo/nocebo phenomena. Numerous researches revealed that suggestions, thoughts and beliefs could have an important influence on human body, thus giving rise to specific therapeutic processes. However, placebo and nocebo effects are not mediated only by psychological mechanisms. There is a clear evidence of neurobiological changes at different levels and areas of the brain, involving endogenous opioids, as well as dopamine, especially in the case of the analgesic placebo effect. Similarly, such neuromodulators as cholecystokinin play a significant role in the nocebo effect. The findings concerning the involvement of the genetic mechanisms in the process of manifesting placebo/nocebo effects cannot be neglected. In the last years, the studies reveal that genetic variations in the brain's neurotransmitter

pathways could influence placebo effects, the incipient evidence being provided with regard to existence of genes that mediate placebo effects in individual patients. Placebo/nocebo genetics is an area in which research is only in a quit early phase.

Conclusions. The study results evoke the complexity of the placebo and implicitly nocebo phenomena and the difficulty of formulating a generally valid theory, which could explain in a clear and complete manner how they function. The described mechanisms have to be regarded in a complementary manner and must be analyzed and regarded as a whole. It is worth to continue the investigations of placebo/nocebo mechanisms so as to optimize the therapeutic interventions and to improve the design of clinical trials.

Key words: placebo effect, nocebo effect, response expectancy, unconditioned factors, placebo genetics

DEPARTMENT OF BIOCHEMISTRY AND CLINICAL BIOCHEMISTRY

286. IS LACTATE A USEFUL MARKER OF CARDIAC HYPOXIA?

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Introduction. According to World Health Organization report, cardiovascular diseases are the leading cause of mortality, accounting for 31% worldwide. Cardiac ischemia is the key-mechanism that underlies acute coronary syndrome and induces cellular necrosis. Prolonged ischemia and hypoxia switch the myocardial metabolism from aerobic to anaerobic glucose degradation with increased lactate formation. The accumulation of lactate in cardiac myocytes results in acidosis, altered energy metabolism and cellular membrane damage. We suppose that myocardial ischemia could cause an elevation of circulating lactate level.

Aim of the study. The research purpose was to evaluate serum lactate levels in experimental acute myocardial infarction.

Materials and methods. Forty healthy adult male rats were randomly divided into five groups: (L1) - sham; (L2) - control NaCl 0.9% solution; and with acute myocardial infarction induced by subcutaneous injection of isoproterenol hydrochloride 100 mg/ kg (one dose), and sacrificed after 6 h (L3), 24 h (L4) and 7 days (L5) respectively. Serum lactate concentration was determined using standard kit (ELITech, France). Obtained data were represented by median and interquartile range. For group comparison, the Kruskal-Wallis and Dunn nonparametric tests were performed (SPSS 23.0).

Results. The investigated groups have shown statistically insignificant difference for serum levels of lactate ($p < 0.05$). Initially in L3 was identified a slight decrease, followed by a significant increase in L4, with a repeated fall in L5 group.

Conclusions. The obtained data denote the possible release of lactate from the ischemic cardiomyocytes to the blood. Serum lactate level, following acute myocardial infarction is a useful biomarker that reflects the severity of tissue hypoxia.

Key words: acute coronary syndrome, lactate, hypoxia, myocardial metabolism

287. MECHANISMS OF VENOUS THROMBOEMBOLISM IN ORAL CONTRACEPTION

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Introduction. Combined oral contraceptives (COC) are more and more used by fertile women, as well as teenagers in different cases, like dysmenorrhea, endometriosis, ovarian polycystic syndrome, dysfunctional uterine bleeding (DUB) and hormone-replacement therapy (HRT) for primary ovarian insufficiency. Even if they act efficiently in pregnancy prevention and hormonal regulation, they also significantly increase the risk of venous thromboembolism. Recent researches have shown that the risk of venous thromboembolism depends a lot on the ratio of estrogen/progestin in combined oral contraceptives and on thrombotic events of women on COC.

Aim of the study. Description of the mechanisms that can induce venous thromboembolism and the selection of women potentially predisposed to them. Highlighting the frequency of their occurrence depending on the ratio estrogen/progestin in the composition of combined oral contraceptive. Individual prescription for oral contraceptives, in order to reduce their risk for health.

Materials and methods. The literature analysis has been conducted using 98 bibliographic sources from PubMed search engine starting with January 2017 and from PMC since January 2015.

Results. In women with mutation of Factor V Leiden and prothrombin, as well as defects of antithrombin III, protein C and S, that take hormonal contraceptives, the risk of venous thromboembolism increases up to 3-9%, unlike women who do not take them. Also, women who take oral contraceptives with estrogen and levonorgestrel, deriving from progestin, have a high level of Factor VII, X and fibrinogen, produced by high hepatic synthesis stimulated by the first hepatic degradation of estrogen, and high APC resistance and low level of antithrombin and protein S. Thus, favorable conditions for venous thromboembolism occur.

Conclusions. In women who take oral contraceptives the risk of thrombosis is higher than in women who do not take them. The mechanisms inducing venous thromboembolism depend a lot on the specific ratio of estrogen/progestin and the presence of hereditary or acquired thrombophilia in women on COC.

Key words: oral contraceptives, venous thromboembolism, hormones, thrombophilia

288. POSTCONDITIONING – A MECHANISM FOR PREVENTION OF ISCHEMIA/REPERFUSION INJURY

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Introduction. Ischemia is a pathological condition when the blood supply to a tissue is interrupted and may lead to irreversible damages due to lack of oxygen and nutrients. There are many diseases, such as myocardial infarction, ovarian torsion, ischemic stroke, where the

quick intervention of the physician may save the organ from necrosis. The first treatment option is to remove the cause of ischemia, but the studies revealed that the reperfusion is able to worsen the initial lesions that were only due to disrupted blood flow. The scientists propose postconditioning as a technique for reducing the reperfusion injuries.

Aim of the study. The aim of the study was to do a research of the specialized literature to assure a better understanding of the mechanisms of protection of postconditioning in the context of the diseases characterized by ischemia/reperfusion injuries.

Materials and methods. Were studied the articles from PubMed database over the last ten years describing the mechanisms of ischemia/reperfusion injury in different organs and the effects of postconditioning as a method of protection against reperfusion lesions. Were used the following keywords: postconditioning, ischemia/reperfusion injury.

Results. The reperfusion injuries are due to activation of different metabolic pathways that are related to toxic compounds formation, such as reactive oxygen species (ROS), with deleterious effects on cell components. The studies revealed that during reperfusion the level of malonic dialdehyde, a biomarker for membrane lipid peroxidation, increases, and this is due to a high level of ROS. Moreover, the literature related to reperfusion injury emphasizes the role of the increased intracellular calcium concentration with activation of different enzymes, the opening of the mitochondrial permeability transition pore, inflammation, increased endothelial dysfunction, and neutrophils activation. Postconditioning after ischemia involves short-term cycles of ischemia that alternate with reperfusion, at the onset of the restoration of the blood flow. It was established that the mechanisms of protection are considered to be related to a reduction of ROS production, inhibition of mitochondrial permeability transition pore, activation of ATP-dependent K-channel through adenosine, which affects the intracellular calcium levels, nitric oxide and pro-survival kinase.

Conclusions. Postconditioning which represents the gradual restoration of blood flow can reduce the extent of reperfusion injury by various mechanisms. The results of the experimental studies on different ischemic organs showed that the short episodes of interruption of the blood flow from the onset of reperfusion, essentially reduced the size of the lesion, compared to a normal revascularization. The postconditioning must be taken into account when there are ischemic diseases.

Key words: postconditioning, ischemia/reperfusion injury

289. THE LINK BETWEEN DIABETES MELLITUS AND ALZHEIMER'S DISEASE

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Introduction. Type 2 Diabetes mellitus (T2DM) represents a major public health burden and a growing prevalent chronic disease around the world. It is known that more than 425 million people have diabetes, and this number is expected to rise to over 642 million by 2040. Alzheimer's disease (AD) is the main cause of dementia, affecting over 26 million people worldwide, and its prevalence continues to increase. Both conditions are related to age, and in the last decades, an interesting link between them has appeared from various studies that affirm

that individuals with T2DM are 2–4 times more likely to develop AD, but definitive biochemical mechanisms remain unknown.

Aim of the study. This review has the intention to present that type 2 diabetes mellitus (T2DM) is a significant risk factor for cognitive dysfunction or dementia, especially those related to Alzheimer's disease

Materials and methods. For the study were used electronic medical platforms such as PubMed Databases, Hinary and other scientific libraries like Google Scholar. It have been selected and analyzed 40 articles including manuscripts, reviews, and publications for the last 10 years.

Results. Of the multiple intersection between T2DM and AD, the most pronounced is the insulin resistance, characterized by hyperinsulinemia and hyperglycaemia. Insulin resistance decreases glucose metabolism which in turn hyperphosphorylates tau protein causing neurofibrillary tangles. In AD, the extracellular accumulation of A β plaques, intracellular aggregation of hyperphosphorylated tau protein in neurofibrillary tangles (NFTs), and neuronal loss occur in the cortex and hippocampus, where are located insulin-dependent receptor GLUT 4 and insulin-independent receptors GLUT1 and GLUT3. Receptors are affected by the abnormal glucose metabolism, and not only, including enzymes like GSK-3, Cdk-5, CK-1 and others. The mechanism of influence does not stop here; hyperglycemia can activate K-ATP channels that increase cellular excitability and leads to an elevated ISF A β . Moreover, insulin alteration in diabetes can interrupt brain cholesterol metabolism leading to metabolic dysfunction.

Conclusions. T2DM and AD were earlier considered as two independent metabolic disorders. However, the present study has clearly stated the presence of common pathophysiological and epidemiological mechanisms, together with signaling pathways that associates a relation between these two pathologies. It might be possible that therapeutics for T2DM would be effective for AD, but in order to prove that, more investigations are needed. Recently, AD has been called Type 3 Diabetes.

Key words: Alzheimer's disease, hyperglycaemia, diabetes 2 mellitus, insulin resistance

290. TUMOR MARKERS - A NEW PERSPECTIVE

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Introduction. The incidence and prevalence of tumor pathology are constantly increasing both globally and in our country. The implementation of new sensitive, specific and easily applicable methods such as tumor markers offers new possibilities in diagnosis, personalized treatment and subsequent monitoring.

Aim of the study. Presentation of the latest and most promising tumor markers according to the latest international studies.

Materials and methods. It has been carried out the synthesis and analysis of the scientific information of the last years in the field of oncology and biomarkers. The targeted population studies are large and performed in the most endowed centers, with maximum truthful results. The markers with the best results were selected.

Results. Liquid biopsy is an alternative to current diagnostic methods due to its sensitivity, applicability, rapidity and harmlessness to obtain CTC, miRNA, RNA, DNA, exosomes,

metabolites, etc. In the diagnosis of breast cancer, we have highlighted a number of new markers such as hsa_circ_0001785, lncRNA HOTAIR, GATA 3, specific plasma lipid profile according to tables and a large miRNA panel. Pancreatic tumors due to asymptomatic evolution, require screening by risk groups, therefore the new markers periostin and circ-LDLRAD3 RNA complement CA19.9 in early diagnosis, especially in PDAC. The long known pyruvate-kinase M2 is determined to be effective in determining the prognosis in pancreatic cancer and EphA2 represents a diagnostic marker but also a therapeutic target. A number of metabolites are capable of differentiating chronic pancreatitis from pancreatic cancer. In the diagnosis of colorectal cancer, was developed a set of 16 RNAs that determine the tumor in its early stages. Likewise, the combination of eight serum biomarkers (CEA, CA19.9, AFP, Galectin3, TIMP1, ferritin, CRP, CyFra 21-1) allows efficient and rapid diagnosis.

Conclusions. Population studies in different countries and by different scientists have shown that biomarkers and biomarker panels studied allow early, rapid, specific diagnosis of the tumor pathologies. Diagnosis based on these tests will reduce the invasive diagnostic procedures and increase the survival rate due to personalized and specific treatment for each tumor. They also allow subsequent monitoring, relapses and prognosis.

Key words: tumor biomarkers, liquid biopsy, colorectal cancer, breast cancer, pancreatic cancer.

291. GLUTEN CAUSE OF OCCURRENCE CELIAC DISEASE

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Introduction. Gluten is a nutritional term used to refer to certain cereal prolamins, rye, barley and oats. It refers to the combined gliadin (prolamin) and glutenin fraction of wheat and displays unique structure building properties, three-dimensional protein network-forming properties being utilized in baking applications to create viscoelastic dough matrices, includes water binding and viscosity yielding, which make gluten a widely used food additive. They are highly resistant to hydrolysis mediated by proteases of the human gastrointestinal tract. Large gluten peptides as gliadin escape gastric digestion and accumulate in the small intestine. These characteristics could help in breaking the tolerance to this food antigen, when the immune system is activated, as can happen during an enteric infection, affect the intestinal permeability and modify the gut microbial activity. Undigested gluten containing carbohydrates entering the colon may be digested within the colon by the colonic bacterial flora, leading to fermentation and an increased in colonic gas, causing bloating and excess flatus. Celiac disease (CD) is a common immune-mediated enteropathy, which occurs following exposure to gluten in genetically susceptible individuals.

Aim of the study. The purpose of the study is to determine the link between gluten and celiac disease by studying the protein properties of gluten.

Materials and methods. The study was performed on 7798 persons aged 6 years or older. Serum samples from all participants were tested for immunoglobulin A (IgA) tissue transglutaminase antibodies. Based on the results about prior diagnosis of CD and use of a gluten-free diet (GFD). CD was defined as having either double-positive serology or other health-care professional and being on a GFD (reported clinical diagnosis of CD).

Results. CD was found in 35 participants, 29 of whom were unaware of their diagnosis. Median age was 45 years (interquartile range 23-66 years), 20 were women, and 29 were non-Hispanic white. Clinical presentation CD is diagnosed more frequently in women with a female-to-male ratio ranging from 2:1 to 3:1. However, based on serological screening, the actual female-to-male ratio is 1.5:1. The prevalence of CD in the United States was 0.71% (95% confidence interval (CI), 0.58-0.86%), with 1.01% (95% CI, 0.78-1.31%) among non-Hispanic whites. In all participants reported following a GFD, which corresponded to a prevalence of 0.63% (95% CI, 0.36-1.07%).

Conclusions. The number of people diagnosed with gluten intolerance is increasing. Most cases were undiagnosed. CD was rare among minority groups. Thus, there is a need for more effective and novel approaches to treat gluten-related disorders. Therefore, by understanding principal properties of gluten open some possibilities for therapeutic approaches.

Key words: gluten, celiac disease (CD).

292. ANTIOXIDANT ACTIVITY OF *TARAXACUM OFFICINALE*

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Introduction. *Taraxacum officinale*, considered a weed in many crops around the world, is regarded as a fully nontoxic and entirely edible plant. The chemical composition of plant (flowers, leaves, roots and latex) has been studied extensively due to its biological actions: antioxidant, anti-inflammatory, anti-carcinogenic, anti-hyperglycaemic, anti-thrombotic, antimicrobial and antiviral.

Aim of the study. To establish the optimal conditions for the extraction of the bioactive compounds from the *Taraxacum officinale* leaves and their characterization (study of the physical-chemical and biological properties).

Materials and methods. The process of extraction from the investigated vegetal material has been realized by using the maceration during 24 hours. The extraction has been realized at a room temperature in three consecutive steps for each method using as a solvents: 80%, 50%, and 20% of ethanol. The antioxidant properties of the obtained extracts was investigated by the ABTS (2,2-azinobis-(3-ethylbenzothiazoline)-6-sulfonic acid) method described by Re et al., with some modifications. The results were expressed as percent inhibition of the ABTS radical. Trolox (6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid) and Rutin (Quercetin-3-rutinoside hydrate; Sigma-Aldrich) was used as antioxidant standard.

Results. The highest antioxidant properties in the leaves of *Taraxacum officinale* showed the extraction with 80% EtOH, at concentrations of 1.25, 0.63 and 0.31 µg/ml, the inhibition percentage in the ABTS test was: 93%, 77% and 48%, respectively. The lower inhibition activity was observed with 50% EtOH extract at concentrations of 4.69, 2.34 and 1.17 µg/ml, the inhibition rate was 95%, 94% and 94%. A similar ABTS radical inhibition activity also showed the 20% EtOH extracts, which at concentrations of 4.38, 2.19 and 1.1 µg/ml, showed an inhibition rate of 95%, 94% and, respectively, 81%. The biologically active compounds extracted from the leaves of *Taraxacum officinale* more effectively capture the ABTS radical compared to the reference substances - Trolox and Rutin. Thus, Trolox and Rutin at

concentrations of 187.5, 93.75 and 46.9 µg/ml, showed an inhibition rate in the ABTS test equal to 40%, 20%, 13% and, respectively, 40%, 24% and 17%. The biologically active compounds present in the leaves of *Taraxacum officinale* can act as free radical capture agents, thus participating in the prevention of DNA adduct formation and in the prevention of mutagenesis and carcinogenesis and may also exert chemopreventive effects.

Conclusions. In this research, we developed an environmentally sustainable procedure for determining the antioxidant properties of *Taraxacum officinale* leaf extracts. We applied this procedure to select the most efficient method for extracting bioactive molecules with the highest antioxidant activity in the ABTS free radical capture assay. This method is fast, non-toxic, low cost and environmentally sustainable and due to its efficiency, it can be used in various biomedical applications.

Key words: ABTS free radical capture assay, *Taraxacum officinale*, extraction of biologically active compounds.

293. INFLUENCE OF COORDINATING COMPOUNDS OF COPPER, DERIVATIVES OF THIOSEMICARBAZIDE, ON NITRIC OXIDE HOMEOSTASIS IN HEPATIC TISSUE

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Introduction. The researches carried out in the last decades have brought more and more evidence that nitric oxide (NO) and its derivatives play an important role in various physiological and pathological processes, including liver diseases. The therapeutic efficacy of the thiosemicarbazide derivatives is known, but the data regarding their influence on the main nitric oxide metabolites – nitrite (NO₂) and nitrate (NO₃) in the liver tissue are missing.

Aim of the study. Based on the above, the purpose of the study is to investigate the influence of new copper coordinating compounds (CCCs), thiosemicarbazide derivatives on the level of nitric oxide metabolites *in vivo* in laboratory animal studies.

Materials and methods. The Research Ethics Committee of the *Nicolae Testemitanu* SUMP (favourable opinion no. 73 of 26.04.2017) approved the research. The action of the thiosemicarbazide derivatives – CMJ-33 and CMT-67 was evaluated in experiments on 40 male white Wistar rats randomly divided into the following groups: I control – intact animals; II and III – animals, which were administered CMJ-33 and CMT-67, respectively, at a dose of 1.0 mg/kg body weight for 30 days. The determination of NO metabolites was performed according to the methods described previously.

Results. The study shows that the tested CCCs induced statistical changes in the content of NO metabolites in the liver tissue. Thus, CMJ-33 and CMT-67 statistically significantly increase the summary content of NO₂ + NO₃ by 32% and 20% compared to the values attested in the control group. The concentration of NO₂ after administration of CMJ-33 and CMT-67 increases by 43% and, respectively, by 23% compared to the control values. The NO₂/NO₃ ratio relevantly increases after CMJ-33 administration by 47%, while CMT-67 causes a discrete increase of this ratio by 12% in the liver.

Conclusions. The obtained results demonstrate the ability of the CMJ-33 and CMT-67 to induce the formation of NO derivatives, in particular, NO₂ in liver tissue. This can be certified as a positive moment because nitrite acts by a mechanism distinct from that of nitric oxide, and it is capable of modulating multiple intracellular/extracellular signaling pathways, at lower concentrations than those required for induction of methemoglobinemia and vasodilation. Evaluation of the NO homeostasis is important for the research of new bioactive compounds for a better understanding of their mechanisms of action, which will facilitate not only the discovery of new targets for their action, but also the development of new therapeutic agents.

Key words: nitric oxide metabolites, copper coordinating compounds, thiosemicarbazide derivatives, liver tissue.

294. ISCHEMIA-REPERFUSION INJURY IN OVARIES

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Introduction. Ovarian torsion is a condition in which the ovary twists around its pedicle resulting in diminished blood flow with the ischemia of the organ. It is the fifth most common cause of acute abdomen in women and requires detorsion to treat. Following reperfusion a cascade of reactions is initiated with the formation of reactive oxygen and nitrogen species (ROS, RNS), which lead to cell injury.

Aim of the study. To determine the effects of ischemia-reperfusion injury on ovarian viability and later fertility in patients with ovarian torsion.

Materials and methods. Studies from the specialized journals of PubMed, Medline, Hinari were used, which focused on the structural and functional changes in detorsioned ovaries, their viability, follicular reserve and fertility.

Results. Ischemia in torsioned ovaries leads to the formation of ROS and RNS such as superoxide anion radicals, nitric oxide and others. Following reperfusion the influx of large amounts of oxygen leads to the increase of ROS production which causes inflammation and tissue damage. Therefore the damage to the tissue is exponentially more severe in the reperfusion rather than in the ischemic phase. ROS are responsible for the peroxidation of the membrane lipids with the formation of malonic dialdehyde (MDA), increased cell membrane permeability, DNA chain breaks and mutations, massive influx of Ca²⁺ from its binding sites with the release of cytochrome c from the mitochondria and activation of caspase-dependent cell death. These free radicals are scavenged by the antioxidant enzymes, such as superoxide dismutase, catalase and by vitamin C, which seems to be present in high concentrations in the ovary and can help partly minimize the cell damage. Studies in patients with ovarian torsion show that the majority of detorsions are successful even in later stages with the recovery of normal blood flow and the preservation of the organ structure. Follicular reserve has also been shown to be maintained even after prolonged periods of ischemia. Few studies are available for the fertility of these patients, but nonetheless they show pregnancies in the majority of cases.

Conclusions. The ovary seems to possess a certain degree of resistance to ischemia-reperfusion injury even after long periods of ischemia as shown by the preservation of its structure, follicular reserves and fertility, but further studies are required to assess all of the

consequences. Thus, conservative treatment of ovarian torsion is encouraged with gradual detorsion of the organ.

Key words: ovarian torsion, ischemia-reperfusion injury, ROS

295. NATRIURETIC PEPTIDES IN THE PATHOGENESIS AND DIAGNOSIS OF CHRONIC HEART FAILURE

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Introduction. Chronic heart failure (CHF) is a severe health problem today, which is the most common cause of death globally. Half of the patients primarily diagnosed with heart failure, will die within 4 years, whereas those with severe heart failure will die within a year, in more than 50% of cases. This problem underpins the importance of an early diagnosis and risk stratification of the patients suffering from heart failure.

Aim of the study. The aim of the study was to determine the role of the natriuretic peptide (NP) family in the pathogenesis of chronic heart failure, as well as the biomarker potential in early diagnosis of the disease.

Materials and methods. A descriptive review was carried out, based on the scientific articles published during 2016-2020 in journals from PubMed and Google Scholar databases, by using the keywords "natriuretic peptide" and "chronic heart failure".

Results. The NP system is represented by five structurally similar peptides: ANP – atrial natriuretic peptide, BNP – brain natriuretic peptide, CNP – C-type natriuretic peptide, and DNP – dendroaspis natriuretic peptide. NPs interfere with blood pressure regulation by decreasing systemic vascular resistance, increasing the cardiac output, regulating the hydroelectrolyte balance by promoting natriuresis and diuresis due to neuro-hormonal suppression (renin-angiotensin-aldosterone system, norepinephrine, and endothelin-1) and exhibiting anti-proliferative and anti-fibrotic effects. Thus, the NPS are counteracting the main pathophysiological mechanisms found in patients with HF. The plasma NP levels can be used for initial diagnosis, especially in non-severe clinical presentation. Patients with normal NP levels are less likely to develop HF. B-type natriuretic peptide (BNP) and N-terminal propeptide of BNP (NT-proBNP) are the key members of the natriuretic peptide family, which have been recommended as gold standard biomarkers for heart failure diagnosis and prognosis (2016 ESC Guidelines on diagnosis and treatment of acute and chronic heart failure). 35 pg/ml for BNP and 125 pg/ml for NT-proBNP are the upper reference values in non-acute cases. The following factors should be considered when interpreting the BNP values: age (elderly people have higher BNP values), concomitant therapies and renal function. High NP values might be found in other cardiac and non-cardiac disease.

Conclusions. In case of CHF, BNP and NT-proBNP assessment is the most significant marker in diagnosing and stratifying the severity of the disease at its onset, since high levels of NP leads to recurrent hospitalization and sudden cardiac arrest.

Key words: chronic heart failure, natriuretic peptides, biomarkers

296. TOXICITY OF E-CIGARETTE CONSTITUENTS

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Introduction. Most e-cigarettes coils compounds are recognized safe, but those designations are for oral consumption and less to flavorings used in e-cigarettes. Most of these chemicals were never studied for toxicity via inhalation route and there are few studies confirming that heated substance maintains its primary chemical structure. Majority of articles state that nicotine is the main source of health injuries while using e-cigarettes, but there are few about other compounds and their impact on health.

Aim of the study. The aim of the study was to determine the toxicology of the e-cigarette constituents other than nicotine and its impact on human health.

Materials and methods. The bibliographic study was done, based on scientific articles published during 2016-2020 in journals from PubMed and Google Scholar databases, using the keywords “e-cigarette constituents”, “propylene glycol”, “e-cigarette flavors”.

Results. E-cigarettes often contain ingredients such as propylene glycol and glycerol, mixed with concentrated flavors and, a variable percentage of nicotine. The most common compound of e-liquids is propylene glycol, which seems to be safe if administrated i/v or i/m in small concentrations as a vehicle for low water soluble medicines. Exposure to propylene glycol aerosols has been shown to cause irritation to the eyes and throat, while heated it may lead to formation of carbonyl compounds (formaldehyde and acetaldehyde), which are involved in irritation of respiratory tract, eyes and skin. Glycerol, another humectant, may lead to mild squamous metaplasia of airways, while the combusted glycerol leads to formation of acrolein that suppresses the Lipopolysaccharide-Induced Inflammatory Cytokine Production, causing COPD and asthma, as well as it and could impair vascular repair capacity. Diacetyl and acetylpropionyl, that is used to confer creamy flavor, may cause chronic cough, bronchitis, asthma, and obliterated bronchiolitis. The majority of coils have great amounts of metals (Pb, Ni, Cr, Cd, La, etc.) themselves, but also in e-cigarette construction, that are inhaled while smoking and lead to severe generalized health problems.

Conclusions. Public opinion towards e-cigarettes is duplicitous, being necessary scientific studies to establish their damaging actions or harmlessness. The latest research attests that many components of e-liquids are toxic by themselves; other could produce some toxic compounds when heated and aerosolized. Regardless of the origin of the harmful compounds – original in the e-cigarette or formed as a result of heat, they can produce chemical reactions that could injure the lungs, bronchi, eyes and skin.

Key words: toxicity, e-cigarettes, e-liquids, inhalation

297. NON-INVASIVE ASSESSMENT OF LIVER FIBROSIS IN AUTOIMMUNE HEPATITIS

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Introduction. The degree of liver fibrosis is of great importance for prognosis and therapeutic intervention in chronic liver diseases. However, there is a relative lack of tools and technologies for non-invasive and longitudinal assessment of liver fibrosis in autoimmune hepatitis (AIH). Low sensitivity and specificity of currently available diagnostic options highlight the necessity of fibrosis biomarker identification.

Aim of the study. To analyze the importance of non-invasive biomarkers for liver fibrosis assessment in AIH.

Materials and methods. A scientific review have been performed using HINARI database. Based on search terms “liver fibrosis”, “non-invasive tests” and “biomarkers”, articles on this topic have been identified and the most relevant ones have been studied.

Results. The extracellular matrix (ECM) may provide options for biomarker identification, as both the content and the composition of the ECM correlate with fibrosis stage. The balance between matrix metalloproteases (MMP) and tissue inhibitors of metalloproteases (TIMP) affects the turnover model of ECM, thus MMP-1, MMP-3, TIMP-1 are applied in non-invasive diagnosis as reliable fibrosis markers. The N-terminal propeptide of procollagen type III (PIIINP) reveals the intensity of ECM synthesis, but its specificity and sensitivity in fibrosis evaluation is considerable higher if associated with hyaluronic acid and MMP. Despite their high applicability and good reproducibility, biomarkers present some limitations in displaying liver fibrosis, because they are not liver specific and unable to discriminate between intermediate stages of fibrosis. On the other hand, transient elastography via liver stiffness measurement can stage hepatic fibrosis, especially with high performance for cirrhosis. However, the accuracy of this non-invasive technique in AIH is still limited due to false positive results in conditions like acute hepatitis, extrahepatic cholestasis, liver congestion, and lower applicability than serum biomarkers in case of ascites or/and obesity.

Conclusions. There is increasing evidence for the prognostic value of both functional and imaging biomarkers as liver fibrosis non-invasive assessment methods in AIH. Certainly, the combination of these different tools will overcome their individual disadvantages and allow a more personalized fibrosis staging.

Key words: liver fibrosis, biomarkers, transient elastography, autoimmune hepatitis.

298. BLOOD EXPRESSION OF OXIDATIVE STRESS

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Introduction. Oxidative stress is a pathogenic mechanism of a number of diseases that affect tissues and organs. The usefulness of the blood markers in the diagnosis of the diseases and/or conditions associated with oxidative stress is substantiated by the blood expression of oxidative stress and the correlation with the intensity of the pathological process in the organs. An indirect marker for oxidative stress is malonic dialdehyde (DAM), the end product of lipid peroxidation triggered by oxidative stress. The assessment of the DAM level could reveal the intensity of the processes and can determine the therapeutic strategy.

Aim of the study. To assess the level of DAM in the blood and the hepatic homogenate of laboratory animals in oxidative stress induced by muscle ischemia/reperfusion in crush syndrome.

Materials and methods. The DAM level was measured by the classical thiobarbituric acid method, described by Vladimirov Iu. (1972), in the hepatic homogenate and erythrocytes of white laboratory rats subjected to muscle ischemia (240 min) and reperfusion (90 min) compared to control (240 min. ischemia) and healthy animals.

Results. Prolonged ischemia (240 min) induced an insignificant ($p > 0.05$) increase in the level of DAM in both the hepatic homogenate (+7%) and in the erythrocyte hemolysate (+9%) in the experimental animals compared to the healthy ones. Removal of the causal factor and reperfusion (90 min) of the compressed muscle tissue did not change the DAM values in the hepatic homogenate, but produced a statistically significant decrease, up to values below those found in the control animals, in erythrocytes (-25%, $p < 0.01$). Thus, long-lasting ischemia is associated with an insignificant increase in the end product of lipid peroxidation, which possible confirms the sufficient antioxidant capacity of the liver and erythrocytes, which in the case of blood cells is surpassed by the oxidative explosion conditioned by the reperfusion and the entry of oxygen.

Conclusions. Statistically insignificant changes of DAM content in the liver and erythrocytes of animals with oxidative stress triggered by ischemia/reperfusion attest minor value of DAM as a marker of oxidative stress at late stages of the pathological process.

Key words: malonic dialdehyde, oxidative stress, ischemia/reperfusion, crush syndrome

299. NON-INVASIVE DIAGNOSIS OF HEPATIC FIBROSIS

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Introduction. Hepatic fibrosis is a worldwide health issue, whose prognosis; management and potential treatment depend on establishing the accurate diagnosis according to the progression of the disease. Modern medicine studies efficient, safe and non-invasive methods for the assessment of hepatic fibrosis, such as serum biomarkers and imaging techniques: FibroScan elastometry, MRI, ARFI.

Aim of the study. Identification and study of the non-invasive methods for the diagnosis of hepatic fibrosis

Materials and methods. A bibliographic study of scientific literature from 2009-2020 based on Biomed Central, Bio Predictive, ACS Publications data bases was done, with the following search words – hepatic fibrosis, non-invasive diagnosis, fibrotest, biomarker of fibrosis.

Results. Serum biomarkers, used for the assessment of hepatic fibrosis, are classified in: direct biomarkers – Procollagen type I carboxy-terminal peptide (PICP), Procollagen type III amino-terminal peptide (PIIINP), matrix metalloproteinases (MMPs), tissue inhibitors of matrix metalloproteinases (TIMPs), hyaluronic acid (HA), transforming growth factor β 1 (TGF β 1), laminin, connective tissue growth factor (CTGF); and indirect biomarkers – AST/ALT ratio, coagulation factors, platelet count, γ 2-macroglobulin, γ 2-globulin, γ -globulin, apolipoprotein A1, GGT, total bilirubin. These serum biomarkers are combined in non-invasive scores such as APRI, FibroTest, FIB-4. Transient Ultrasound Elastography or FibroScan measures liver stiffness (elasticity) and allows determining the stage of hepatic fibrosis according to METAVIR score: F1, F2, F3, and F4. MRI can be used to measure hepatic stiffness, and at the same time other associated pathologies.

Conclusions. Management and individualized treatment of hepatic fibrosis depend on establishing an accurate stage diagnosis. Non-invasive methods, serum biomarkers and imaging techniques allow to determine a correct diagnosis and at the same time to minimize the complications. FibroTest, FibroScan and APRI score are methods that showed the highest clinical efficiency. However, recent studies are focused on identifying the correlation between tissue modifications, the results of serum biomarkers and FibroTest, FibroScan and APRI score.

Key words: hepatic fibrosis, non-invasive methods, FibroTest, FibroScan, APRI, biomarker of fibrosis.

300. FAMILY OF COLECISTOKINETIC PEPTIDES

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Introduction. Cholecystokinin (CCK) is a peptide hormone that, together with secretin and gastrin, forms the triad of intestinal hormones. Due to the receptors, which are expressed in different tissues, and to the diversity of the subgroups of the cholecystokinin family peptides that activates them, CCK acts on different organs and systems.

Aim of the study. Identification and study of the biochemical and physiological effects of the subgroups of the CCK peptides family and of their role in maintaining homeostasis and viability of the human organism.

Materials and methods. A bibliographic study of the specialized literature present in the databases PubMed, MeSH, Internet Archive, IUPHAR/BPS, from 2010-2020 was performed, using the search words cholecystokinin, CCK receptors, expression of CCK receptors, cholecystokinin-like peptides, physiology of the Gastrointestinal Tract.

Results. There are two types of CCK receptors: CCK-A (CCK1 "Alimentary") and CCK-B (CCK2 "Brain"). CCK-A receptors are located in the gall bladder where stimulates its contractions, in the intestinal parietal mucosa where via somatostatin inhibits gastric acid secretion, in the nervous system where directly or indirectly, through dopaminergic processes, it modulates the behavior in general and eating behavior in particular. CCK-B receptors are predominantly in the CNS where they modulate anxiety, analgesia and neuroleptic activities. CCK-B receptors also have been identified in the pancreas where they stimulate the secretion of enzymes. It has been shown that pancreas-responsible neurons release CCK-8 and CCK-5, which subsequently produce effects. Moreover, CCK via acetylcholine activates parasympathetic neurons, therefore increasing blood supply to the stomach and increasing motility. At the thyroid level, CCK-8 stimulates normal growth and C-cell proliferation.

Conclusions. The expression of CCK at the level of different organs determines a wide range of various effects, involved in normal metabolic and physiological processes, which ensures the maintenance of homeostasis and viability of organs and tissues. Knowledge of the pleiotropic effects of the CCK family peptides and the receptors involved in their development opens new possibilities for addressing the nutritional disorders and functional diseases of the gastrointestinal tract, as well as of intervention in some processes in the nervous system associated with chronic pain, anxiety and depression.

Key words: cholecystokinin, cholecystokinin family peptides, CCK-A CCK-B receptors

301. MICRO-ARN – A NEW CLASS OF BIOMARKERS AND THEIR ROLE IN NEUROLOGICAL DISEASES

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Introduction. Many studies have suggested that miRNAs can be important biomarkers in a variety of pathologies, including cancer, diabetes, cardiovascular diseases, aging, asthma, autoimmune, kidney and neurodegenerative diseases (NDDs). A significant fraction of miRNAs is specifically expressed in the central nervous system and plays a role in neuronal development. Consequently, it seems natural that miRNAs have been linked to NDDs as such as Alzheimer's, Parkinson's and Huntington's disease, which are caused by excessive neuronal death in the damaged brain. Due to the potential of miRNA as biomarkers, several studies have predicted that monitoring methods for miRNAs will be extensively useful for curing these diseases in the near future.

Aim of the study. To elucidate the role of miRNA as a biomarker in neurodegenerative pathological processes.

Materials and methods. To achieve the proposed goal of the study has been performed the literature analysis, using 125 bibliographic sources published during 1989-2020 in PubMed, Medline, MedScape and Hinari electronic libraries.

Results. The results of high efficiency sequencing experiments suggest that the number of miRNAs expressed in human brain should be over 1000. A number of studies have revealed that specific miRNAs are differentially expressed in the human brain and, more importantly, some of the miRNAs modulate genes associated with specific neurodegenerative disorders. Harraz et al. showed that among the sequenced 224 miRNAs, miR-133b, miR218-2, miR-15b, miR101-1, miR107, miR-335, and miR-345 were notably regulated in Parkinson Disease (PD) patients. Other miRNAs have been associated with Alzheimer diseases (AD), such as miR124, miR-132, and miR-153. Many miRNAs are involved directly or indirectly in other neurological disabilities, such as epilepsy, amyotrophic lateral sclerosis (ALS), traumatic brain injury, and prion diseases. Recent studies have highlighted the impact of numerous miRNAs on the pathogenesis and progression of NDDs. However, comprehensive profiles of the effects of different sets of miRNAs that are related to a specific disease remain elusive.

Conclusions. The current evidence clearly points to a significant role of miRNAs in NDDs. The miRNAs study is particularly promising for understanding the very prevalent, but poorly understood sporadic forms of NDDs, such as AD and PD. Now the challenge is to understand the role of specific miRNAs in biological models and to translate this knowledge to clinical studies.

Key words: micro-RNAs, biomarkers, neurodegenerative diseases.

302. VITAMIN D AND ITS ANTI-CANCER EFFECTS

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Introduction. Vitamin D or "vitamin of the sun" is well known for its anti-inflammatory and immunomodulatory effects, prevention of osteomalacia and osteoporosis and influence on the metabolism of calcium and bones. In addition, it prevents diabetes, multiple sclerosis, cancer, heart disease and even depression. Therefore, studies show that vitamin D, which the human body produces through its exposure to the sun, can reduce the risk of colorectal cancer, breast cancer, ovaries, prostate or any other type of cancer. It also influences many physiological processes, including muscle function, cardiovascular homeostasis, nerve function, cell integrity and immune response. A lot of studies show that this vitamin fights cancer by encouraging cell differentiation, preventing cell growth, inducing apoptosis and preventing the formation of blood vessels within tumors. Following observational studies, it has been noted that the high prevalence of vitamin D deficiency, combined with the discovery of increased risks of certain cancers, suggests that vitamin D lack may account for several thousand annual premature cancer deaths.

Aim of the study. The purpose of this study was to present the main conclusions about vitamin D and its effects in cancer prevention and treatment. This finding creates a new impetus for providing suitable vitamin D intake to reduce the risk of cancer.

Materials and methods. The review was performed by searching the PubMed database including publications on the etiology and prevention of chronic vitamin D. The most relevant literature was revised from 2010-2019.

Results. In vitro and animal studies indicate that vitamin D may have anti-cancer benefits, including against the progression and metastasis of a wide spectrum of cancers. This is because human cells are capable of metabolizing 25-hydroxyvitamin D in 1,25-(OH)-2D, the reaction being catalyzed by enzyme 1- α -hydroxylase (CYP27B1). The combined presence of 25-(OH) D-1 hydroxylase as well as the specific receptor in several tissues introduced the idea of a paracrine role for 1,25-(OH) 2D. Furthermore, it has been shown that 1,25-(OH)-2D promotes cell differentiation and has anti-inflammatory, pro-apoptotic and anti-angiogenic actions, and also inhibits the proliferation of cancer cells.

Conclusions. Vitamin D deficiency and insufficiency are closely linked to the increased prevalence of cancer. Thus, vitamin D can be administered within the norm (250-500 nmol/L) to prevent cancer as well as against its progression and metastasis. Therefore, the academic environment, public funding agencies and industry should urgently design appropriate studies in order to define better the causal relationship between vitamin D nutrition and cancer, as well the optimal vitamin D nutrition based on an accurate measurement of 25-(OH)-D, and inform the public and medical profession accordingly.

Key words: vitamin D, 25-hydroxyvitamin D, prevention, cancer.

303. LACTOSE INTOLERANCE: MISBELIEF AND REALITY

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Introduction. Nowadays a common misrepresentation of lactose intolerance, perpetuated by advertising of lactose-free diets, low-lactose products, the increased popularity of veganism has led to the exclusion of lactose containing foods.

Aim of the study. The aim of this review was to evaluate the current information regarding lactose intolerance in order to establish whether the prevalent misconception has scientific grounds.

Materials and methods. An extensive English search was undertaken of the PubMed database for the terms “lactose intolerance”, “self-reported lactose intolerance”, and relevant articles from 2010-2020 were examined.

Results. Lactose intolerance is associated with gastrointestinal symptoms with intra- and inter-individual variability after ingestion of lactose-containing foods, this relation being influenced by: the expression of lactase, dose of lactose, intestinal flora, gut transit time, ingestion of other dietary components, the sensitivity of the gastrointestinal tract and the genetically programmed decrease in lactase synthesis. While lactose is the main factor considered, other maldigested carbohydrates, dairy related nutrients (some fats or casein proteins) and some gastrointestinal diseases may be taken in account. A nocebo effect has also been considered to contribute to the exaggerated understanding of lactose intolerance, individuals erroneously attributing their symptoms to lactose consumption. Inappropriate avoidance of dairy products can lead to nutritional inadequacy, increasing the risk of osteoporosis, bone fractures, hypertension.

Conclusions. The common wrong understanding of lactose intolerance has led to the increasing misleading self-diagnosis, a decision that results in a series of consequences associated with diet restrictions.

Key words: lactose intolerance, the nocebo effect, lactase persistence, self-reported lactose intolerance

304. PHENOPTOSIS - BIOCHEMICAL MECHANISMS

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Introduction. In the last decades, we have witnessed a real "inflation" of medical discussions and research on science of longevity and anti-aging medicine. Understanding the aging process can offer us different solutions to slow down the process and enjoy health and vitality for a longer time.

Aim of the study. Studying the biochemical mechanisms and the influence of the various factors in phenoptosis and description of the miraculous effects of antioxidant substances.

Materials and methods. Have been studied 17 articles from relevant scientific journals regarding the terms “phenoptosis”, “oxidative stress”, “reactive oxygen species”, “antioxidant”.

Results. After highlighting all the sequential steps in carrying out the aging program, we may deduce the important role of the mitochondria, as the energy supply stations of the cell, and at the same time, sources of free radical production. Lipid peroxidation exacerbates during the aging process in cells – increases the pro-oxidative capacity and decreases the antioxidant capacity. It was discovered the most effective protector against reactive oxygen species, the compound SkQ1, to which plastoquinone, the natural antioxidant of the plants, is attached. SkQ is able to delay the development of signs of aging and increase the life span of a large variety of animals.

Conclusions. (1) Aging is a set of processes, each reducing the body's resistance. (2) Understanding the aging process, however, can provide us with different solutions to slow down the process and enjoy health and vitality for a longer time.

Key words: phenoptosis, oxidative stress, reactive oxygen species, antioxidant.

DEPARTMENT OF PHARMACOLOGY AND CLINICAL PHARMACOLOGY

305. GASTROESOPHAGEAL REFLUX DISEASE: DIAGNOSIS AND TREATMENT REFERENCES

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Introduction. Gastroesophageal reflux disease is a common clinical pathology of the upper digestive tract, due to the reflux of the gastric or duodenal content within the esophagus, caused by a failure of the antireflux mechanisms, namely the lower esophageal sphincter.

Aim of the study. To study the clinical features, the diagnostic methods and the therapeutic treatment in patients with gastroesophageal reflux disease

Materials and methods. The retrospective study was conducted on 120 patients, admitted at the Department of Gastroenterology, within "Timofei Moşneaga" Republican Clinical Hospital. The study included two groups of patients: 60 patients, hospitalized during 2017-2018 years and 60 patients admitted during 2018-2019, aged between 18- 80 years old. The data regarding the patients' complaints, anamnesis, methods of diagnosis and treatment outcomes have been studied and interpreted.

Results. The study showed a higher incidence of female patients in both study groups. According to the age criterion, 33.33% of patients were aged between 51 -70 years old and only 1.66% - aged under 20. The most common patients' complaints (more than 50%) included as following: 85.8% of cases presented epigastric pain, 53.3% - belching and 52.5% - heartburn, followed by 48.3% - mouth bitterness, 44.1% - nausea and 30.8% - bloating. The least recorded complaints were regurgitations in 5% of cases and dysphagia - 4.1%. Both groups of patients were diagnosed based on the presence of the classic symptoms of GERD, positive response to PPI treatment, upper digestive endoscopy and chest X-ray assessment. According to the study, during the period 2017 -2018, the treatment of patients with GERD was mainly aimed at reducing the gastric acid secretion by administering omeprazole - 71.7% and pantoprazole - 18.4%. In 2018-2019 years, patients with GERD underwent a treatment for increasing the intestinal motility, by administering metoclopramide - 68.4%, followed by the proton pump inhibitors - pantoprazole - 30%, omeprazole - 21.7% and antacids - 28.4%.

Conclusions. The study of the gastroesophageal reflux disease particularities in patients from the Department of Gastroenterology has proved that the diagnosis should be based on the presence of the classic symptoms, changes detected in the upper digestive endoscopy and the presence of the reflux on the chest X-Ray assessment. The treatment regimens included both the suppression of gastric acidic secretion and the increase of the intestinal motility, thus diminishing the action of the harmful factors on LES and esophageal mucosa.

Key words: reflux, diagnosis, esophagus, treatment, acid suppression

306. ADVERSE EFFECTS OF OPIOID ANALGESICS DURING TREATMENT OF CHRONIC PAIN

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Introduction. Maintaining quality of life is an important parameter during treatment. Pain is defined as an emotional, unpleasant experience, associated with present or potential tissue lesion. Pain can be part of having cancer or can be due to cancer treatment and chronic pain may cause exacerbations. Chronic pain is caused often by late stage cancer and to reduce its intensity opioids are administered. Therefore, an understanding of the pharmacology of opioids are required for their safe and appropriate use. Long-term opioid pharmacotherapy is associated with many adverse effects.

Aim of the study. 1. Identifying patients using opioid analgesic; 2. Patients observation during the entire period of treatment; 3. Adverse effects detection, timing when adverse reaction occurs and measures to be taken to avoid specific adverse reactions.

Materials and methods. After inclusion and exclusion criteria were applied, 100 patients from Public Medical Sanitary Institution Institute of Oncology from Chisinau were selected for the study. Patients were randomized in two groups: first group (n=63) -patients receiving opioid analgesic during 14-35 days. Second group (n=37) –patients receiving opioids less than 14 days. Patients were administered following drugs: trimeperidine (promedol) 2% -1ml, omnopon 1% -1ml, morphine 1% - 1ml and tramadol 5% -2ml. The study period was 02.2018 - 02.2019, clinical effects were assessed by clinical examination and questionnaire. The data have been analyzed statistically using SPSS software.

Results. Patients, receiving opioids from the first group experienced: constipation (89%), fatigue (60%), dyspepsia (16%), pruritus (8%), opioid withdrawal syndrome (agitation, tremors, insomnia, exacerbation of pain, neurovegetative symptoms) - 4%, and psychosis (2%). Patients from second group presented following side effects: constipation (12%), fatigue (7%). Early medication was initiated in order to prevent or to reduce adverse effects. Laxatives were administered for constipation, magnesium hydroxide was used if constipation was persistent. The dose of drug was reduced to decrease fatigue and drug was administered more frequently, lowering peak plasma-concentration. Also opioid drug changing was applied or non-opioid analgesics was included, in order to allow opioid dose reduction. Antiemetics have been administered to prevent or treat sensation of nausea and vomiting. Antihistamines was prescribed for pruritus. Doses have been reduced gradually to prevent opioid withdrawal. Antipsychotics have been administered in psychosis.

Conclusions. Chronic pain can be managed and opioids adverse effects must be anticipated and treated.

Key words: Opioid analgesic, chronic pain, adverse effects.

307. PHARMACOLOGICAL ASPECTS IN THE TREATMENT OF POLYCYSTIC OVARY SYNDROME

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Introduction. Polycystic ovary syndrome is a heterogeneous disorder characterized by hyperandrogenism, insulin resistance, metabolic disorders, anovulatory cycles and infertility, affecting 6% - 20% of women of reproductive age. At the same time, this syndrome represents about 75% of the causes of endocrine infertility and 95% of the causes of hirsutism.

Aim of the study. The purpose of the study was to select the groups of drugs used in the treatment of polycystic ovary syndrome and to analyse their presence on the pharmaceutical market with argument of the rationality of use.

Materials and methods. The specialized literature was analysed with the selection of the groups and drugs recommended in the pharmacotherapy of polycystic ovary syndrome with the argument of the pathophysiological mechanisms responsible for their effectiveness. Based on the study of the State Nomenclature of Medicines, were selected the groups of drugs present on the pharmaceutical market in the Republic of Moldova.

Results. In the Republic of Moldova are registered metformin (oral antidiabetic biguanide) and combination medication (with glibenclamide, sitagliptin, vildagliptin), saxagliptin (oral antidiabetic, dipeptidyl-peptidase-IV inhibitor), letrozole (aromatase inhibitor), ciproterone, flutamide, finasteride (antiandrogen), clomiphene (estrogen receptor modulators), oral contraceptives (estrogen-progestin), spironolactone (aldosterone antagonist and antiandrogen), gonadotropins, myoinositol and simvastatin (hypolipemic statins). The use of oral antidiabetics is determined by the diminution of insulin resistance and metabolic effects that accompany the metabolic syndrome (obesity, dyslipidemias, hyperinsulinemia, hyperglycemia). Antiandrogenic preparations, aromatase inhibitors, spironolactone and oral contraceptives will contribute to the combat against hyperandrogenism and hirsutism. Hypolipidemic statins will result in decreased cholesterol synthesis and steroidogenesis with excessive testosterone synthesis. Gonadotropin drugs will be used for ovulation and pregnancy. Myoinositol and polyvitamin and mineral supplements will help correct metabolic disorders.

Conclusions. The study established the presence of groups of drugs used in the treatment of polycystic ovary syndrome in the State Nomenclature of Medicines, which will influence the pathogenetic links of the disease.

Key words: polycystic ovary syndrome, pharmacotherapy

308. PRINCIPLES OF MIGRAINE TREATMENT

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Introduction. Migraine is a recurrent headache disorder affecting ~15% of the population during the most productive periods of their lives, between the ages of 22 and 55 years. Chronic migraine is no longer considered a complication of migraine and is recognized in individuals

that had at least five attacks fulfilling criteria for migraine with/or without aura. This disorder affects 1,4-2,2% of the population and is associated with a higher headache impact in comparison with the episodic migraine. Medication overuse of acute analgesics often occurs with chronic migraine. In patients with migraine frequent intake of acute headache medication can increase the frequency and intensity of headache, causing a vicious circle of further intake of medication and increased attack frequency. Here is how the treatment can become the cause of another separate condition, known as medication-overuse headache.

Aim of the study. To determine medication overuse of acute treatment in patients with chronic migraine and its impact to the severity of the disease.

Materials and methods. In this study were included 36 patients with confirmed clinical diagnosis of chronic migraine who requested a consultation of a neurologist at the Institute of Neurology and Neurosurgery in Chisinau. The study was based on survey: self-report questionnaire with references to the medicamentous migraine treatment and Migraine patient assessment questionnaire from the National Clinical Protocol. A clinical analysis of the disease and medication intake were performed. The patients were separated in two groups: with and without medication overuse of acute treatment (medication overuse is diagnosed if a limit medication days per month is exceeded for ergotamines, triptans, opioids and combination drugs ≥ 10 days per month, and for simple analgesics ≥ 15 days per month, both for longer than 3 months), based on the results of two questionnaires. Student-T test was chosen as statistical criteria for this research.

Results. We found that patients with medication overuse of acute treatment have a significantly more severe clinical signs of the disease. We compared the following clinical outcomes: number of days with headache per month and intensity of headache. In case of medication abuse we found higher values on two parameters: frequency ($p < 0.0001$) and intensity ($p = 0.0016$) of headache per month.

Conclusions. On conclusion, the analysis of our data support the concept that medication overuse is the reason for the development of more severe clinical signs in patients with existing primary headache disorder. Patients who managed correctly their migraine attacks have moderated clinical signs.

Key words: headache, chronic migraine, acute treatment, medication overuse.

309. PHARMACOLOGICAL ASPECTS OF METHYLPHENIDATE USAGE

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Introduction. Numerous recent studies show that misuse of stimulants by individuals without ADHD (Attention Deficit Hyperactivity Disorder) has increased over last years, in order to enhance cognitive performance. This is especially popular among students. Hence, the need to assess the effects of methylphenidate on healthy brain (without ADHD), as well as the associated adverse reactions, arises.

Aim of the study. To evaluate the prevalence of methylphenidate (MPH) usage among medical students, to emphasize pharmacological effects and adverse reactions.

Materials and methods. A self-administered, anonymous questionnaire was distributed in online and sheet forms to students of the ungraduated medical programme. The literature

review on stimulants misuse has been performed, including search of following databases: PubMed, ResearchGate, neurology.com, etc.

Results. 114 questionnaires have been completed, including: 34 – online and 80 – on sheets. Approximately 14,0% (16 of 114) of surveyed students have used MPH for non-medical purposes. Most of them used it to enhance their ability to concentrate 63,64 % (7 of 11). Next adverse reactions were mentioned: tachycardia/High Blood Pressure (8 of 13); anxiety/fear (5 of 13); headache (5 of 13); seizures/convulsions (2 of 13); sleep disorders (9 of 14). Recent studies put college students' nonprescription use of stimulant drugs — Ritalin and amphetamines such as Adderall and Dexedrine — at rates anywhere between 14 and 38 percent, depending on the type of college and age of student. Main purpose of usage is enhancing the ability to concentrate and memorize. Most frequent adverse reactions (>10%) are: psychiatric disorders, insomnia, irritability, decreased appetite, headache, infections.

Conclusions. The prevalence of MPH usage among medical students fits in general statistics. The primary reason of usage also coincides. Some respondents have not mentioned the emergence or absence of adverse reactions. This may be due to refusal to answer or unawareness of the adverse reactions. The literature review revealed that benefic effects of MPH are observed in individuals with lower ability of concentration/memorization, showing that the drug is more effective at correcting deficits than “enhancing performance”. In individuals with good ability of concentration/memorization enhanced motivation has been observed, although associated with higher incidence of adverse reactions.

Key words: methylphenidate, stimulants misuse, ADHD, performance, cognition.

310. PARACETAMOL - BENEFITS AND DAMAGES

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Introduction. Paracetamol and the combined drugs, which belong to the OTC list that are released without a prescription, are most commonly used in the symptomatic treatment or self-treatment of acute respiratory infections. The diversity of trade names often misleads patients who resort to their administration without consulting a doctor. For these reasons, there is an increase in the incidence of acute intoxication and fatal adverse reactions (fulminant hepatic necrosis, etc.).

Aim of the study. The aim of the study consisted in analyzing the presence on the pharmaceutical market of mono- and combined drugs containing paracetamol and estimating possible risk of side effects in self-treatment with them.

Materials and methods. Based on the study of the State Drug Nomenclature, were selected drugs containing paracetamol with analysis of single dose and combination diversity.

Results. In the Republic of Moldova there are 95 mono- or combined drugs containing paracetamol (acetaminophen), including producers from: Moldova - 22, Romania - 20, Ukraine 13, Belarus - 12, Turcia - 5, Russia - 5, Slovenia - 6, Georgia - 4, India - 4, Bosnia and Herzegovina - 2, United Kingdom -1, Germany - 1. The presence of single-dose mono drugs containing paracetamol of 50-250 mg for children and 500-600 mg for adults was found. There is a wide range of combined drugs including: paracetamol + decongestant adrenomimetics (phenylephrine, pseudoephedrine), paracetamol + H1-antihistamines (pheniramine,

chlorphenamine), paracetamol + adrenomimetics + H1-antihistamine +, paracetamol + opacimetamine), paracetamol + H1-antihistamines + opioid analgesics (codeine, promethazine), paracetamol + non-inflammatory anti-inflammatory drugs (propifenazone), paracetamol + antitussive opioid analgesics (codeine, dextromethorphan), which in some cases may have caffeine and / or ascorbic acid added. In accordance with the recommendations of the European Medicines Association the dose of paracetamol in adults for 24 hours is 3.2 g, and in the case of people with pre-existing hepatitis and those who suffer from alcohol abuse, of 2g / 24 hours. The presence of the H1-antihistamine component can result in diminished attention with tragic consequences for drivers, people who do machinery work, as well as the development of dry mucous membranes, including the tracheo-bronchial mucosa, which can enhance the dry cough and decrease the bronchial drainage creating the feeling of ineffectiveness of said drugs. The effect of improved breathing, through the decongestant adrenomimetics, is of short duration (1-2 hours), especially in the first 24-48 hours, which stimulates the more frequent use of drugs with systemic effects, including increased blood pressure, palpitations, tremor.

Conclusions. The number and variety of drug combinations of paracetamol impose caution for their use, in order to avoid overdose and the possibility of developing hepatotoxicity.

Key words: paracetamol, hepatotoxicity

311. CAFFEINE AND PARACETAMOL

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Introduction. The diverse commercial names for paracetamol and combinations of this drug are part of the OTC list and do not need a medical prescription. One of the compounds in these combinations is caffeine, which is considered to enhance the effects of non-opioid analgesics in symptomatic treatments or self-treatment of acute respiratory infections. Some patients use these drugs due to the caffeine found in them without the awareness of other components and their influence on the body. These circumstances could be responsible for acute intoxications and fatal side-effects (such as fulminant hepatic necrosis).

Aim of the study. The objective of the study was to analyse the presence of caffeine-paracetamol combinations in the pharmaceutical market and argue the rationality of their association.

Materials and methods. Based on the study of the State Drug Nomenclature, the combined preparations of paracetamol and caffeine were selected with single dose analysis.

Results. In the Republic of Moldova there have been 9 registered drug combinations that contain paracetamol and caffeine. The single doses of paracetamol were between 200-500mg, and between 2-75mg for caffeine. The preparations also contained a wide diversity of components; paracetamol + adrenomimetic decongestants (phenylephrine) + caffeine, paracetamol + H1-antihistamines (chlorpheniramine) + adrenomimetics (phenylephrine) + caffeine, paracetamol+ opioid analgesics (codeine) + caffeine, paracetamol+ non-steroid anti-inflammatory (acetylsalicylic acid, propyphenazone) + caffeine. The results have demonstrated an analgesic effect of caffeine in alleviating headache in dysmenorrhea and migraines, tension-

type headache and after postdural puncture, acute dental pain, post-operative, post-traumatic and orthopaedic pain.

Conclusions. Caffeine can manifest a potential effect of analgesia due to its competitive antagonism of adenosine receptors at central and peripheral levels as well as modulating pain perception and regulating cyclooxygenase-2 transcription.

Key words: paracetamol, caffeine, analgesia

312. THE REVIEW OF THE PRODUCTS FROM REPUBLIC OF MOLDOVA STATE MEDICINE NOMENCLATURE USED IN TREATMENT OF EXOCRINE PANCREATIC INSUFFICIENCY

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Introduction. Exocrine pancreatic insufficiency (EPI) is characterized by maldigestion of nutrients and is caused by insufficient delivery of pancreatic digestive enzymes to the duodenum. The fact that the signs and symptoms aren't specific, results in a late correct diagnosis and treatment. The management of EPI consists of taking digestive pancreatic enzyme medication during or immediately after the meals. The minimal dosage used when starting the therapy is between 40 000 and 50 000 USP units of lipase at each meal. An inadequate therapeutic response might be caused by the inactivation of lipase in the gastric acid if the medication doesn't have a gastro-resistant coat.

Aim of the study. To study the State Medicine Nomenclature and analyze the products suitable for treatment of EPI.

Materials and methods. For this research were used: SNM, latest version including 6133 medications, international guides for gastrointestinal diseases and scientific articles.

Results. Out of the 6133 products listed in the SNM, only 25 (0,4%) are drugs that contain pancreatic exocrine enzymes. From this 25: 21 (84%) contain only pancreatin, 3 (12%) – pancreatin combined with hemicellulose and bovine bile extract and 1 medication (4%) is a fusion of pancreatin, hemicellulose, bovine bile extract and simethicone. Only 6 products are with mini-microspheres, 16 have a gastro-resistant coat and 3 have an ordinary non-gastro-resistant coat. According to the producing country, 52% are imported from Germany, 20% - from Ukraine, 16% - from Romania, 4% - from Turkey and only 8% are manufactured in Republic of Moldova. 5 drugs contain 25 000 USP units of lipase in each tablet/capsule, 6 products – 10 000 USP units of lipase each tablet and the other 14 medications have between 8 000 and 3 150 USP units of lipase in each pill. Currently, the following products can't be found on the pharmaceutical market of Republic of Moldova: pancreatin + bile acids + plant extracts + antimicrobial constitutive and pancreatin + adsorbent agents.

Conclusions. The diagnostic and initiation of treatment in patients with exocrine pancreatic insufficiency have to be done as soon as possible, in order to prevent the development of complications and maintain a high quality of life. The suitable drug and its dose has to be chosen for every patient individually. The capsules with mini-microspheres seem to be the most effective from this group of medications, therefore the increase of such drugs would be welcomed on the pharmaceutical market of the country.

Key words: exocrine pancreatic insufficiency, pancreatic enzyme products, State Medicine Nomenclature.

313. THE EVALUATION OF IMMUNODEFICIENCIES AND THEIR MODERN TREATMENT

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Introduction. The diminishment of immunity, be it congenital or acquired, continues to threaten the existence of those who do not have a normal immunity level. Once these sequelae are installed, the correction of immune system disorders has become a priority of modern medicine, and any action taken to wards the immunocompetent cells certainly needs to be carefully studied.

Aim of the study. The study of the entomological formulant Imupurin properties; the evaluation of its specifics and its action properties; and the opportunities of its application in the treatment of immune disorders of patients with chronic liver illnesses.

Materials and methods. Retrospective study, conducted within the Republican Clinical Hospital "Timofei Moşneaga", comprises a group of 60 patients, hospitalized in Hepatology Unit. The study included the medical records of the patients that have been hospitalized during the period of January-august 2014, aged between 40 and 60 years old. The biochemical and immunological analyses, as well as the treatment and evolution of these patients have been studied.

Results. The study has proved that the entomological formulant Imupurin, thanks to its components, such as : essential and non-essential amino acids and lipo-proteins, manifests special hepatoprotective features and develops a complex immunomodulatory mechanism. This contributes to the amount of T- and B-lymphocytes normalization, intensifies phagocytosis processes. After treatment with Imupurin, the astheno-vegetative syndrom decreased to 56%, the cytolytic syndrome decreased to 31,6 %, the hepato-depressive syndrome reduced to 18 % of the patients with chronic vrial hepatitis B and C, and the hepatosplenomegaly decreased to 61 % out of 60 patients.

Conclusions. The study of the entomological product's properties in Hepatology Unit proved its efficiency in pathological cases of patients with compromised immunity, and specifically, it showed immunomodulatory properties that correc the immune state, while its hepatoprotective activity induces to a considerable normalization of transaminases and to the reduction of hepatomegaly.

Key words: Immunodeficiency, imupurin, immunomodulatory, hepatoprotective.

314. HYPERGLYCEMIA DUE TO THE UTILIZATION OF ANABOLIC STEROIDS

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Introduction. Hyperglycemia is a condition in which an excessive amount of glucose circulates in the blood plasma and is a common adverse reaction of anabolic steroids therapy, affecting 20% to 50% of patients without a history of diabetes. In addition, glucose levels are often elevated among patients with prediabetes and previously well-controlled diabetes during steroid therapy. Anabolics stimulate glucose production by the liver and inhibit peripheral glucose uptake, resulting in insulin resistance allowing blood glucose levels to rise and remain higher.

Aim of the study. To determine the manifestations of hyperglycemia after utilization of anabolics.

Materials and methods. It was made the bibliographic and personal investigations of hyperglycemic state due to anabolics. Twenty-five healthy male power athletes were followed up during their self-regimen of substance abuse.

Results. In our investigation, there is determined that more than half of the men receiving high-dose steroids develop hyperglycemia, with an incidence of 86% of at least one episode of hyperglycemia and 41% of athletes presenting a mean blood glucose ≥ 140 mg/dL. Hyperglycemia incidence in men without a prior history of diabetes mellitus (DM) to steroid use varies from 34.3% to 56% for athletes with 1-3 years of anabolic utilization. The manifestations of hyperglycemia were: polyuria (36%), polydipsia (29%), polyphagia (41%), dizziness (18%), shakiness (19%), irritability or moodiness (37%), anxiety or nervousness (26%), trouble concentration (15%). The development of hyperglycemia was observed on 41% athletes, 29 - 41 years old, who reported a consumption of AAS for 1-3 years. They self-administered high doses of oral stanozolol, oxymetholone, methandrostenolone and ibutamoren. For management of hyperglycemia, if diet and physical exercise do not reduce the glucose levels adequately, it is recommended to prescribe antidiabetic drugs, such as metformin, DPP-4 inhibitors or sulfonylureas that are effective and work by increasing insulin release from the pancreas but they may cause hypoglycemia.

Conclusions. Complications associated with steroid-induced hyperglycemia are often underestimated despite hyperglycemia being a well-known adverse effect of anabolic therapy. Appropriate management of hyperglycemia due to anabolics is oral antidiabetic agent, such as a DPP-4 inhibitors, metformin, or by using the weight-based NPH insulin may reduce the risk of adverse outcomes, including symptomatic hyperglycemia and new-onset diabetes.

Key words: Steroid, Anabolic, Hyperglycemia, Treatment.

DEPARTMENT OF MOLECULAR BIOLOGY AND HUMAN GENETICS

315. CLINICAL AND GENETIC STUDY OF THROMBOPHILIA IN PREGNANCY

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Introduction. Thrombophilia is defined as an abnormal coagulation state of blood that increases the risk of thrombosis. Pregnancy represents a physiological hypercoagulation state. But, women with acquired and hereditary thrombophilia are at increased risk of developing

venous thromboembolism and other associated gestational vascular complications like Recurrent Pregnancy Loss (RPL), preeclampsia, intrauterine growth restriction, and placental abruption during pregnancy. These complications are a major cause of maternal and fetal morbidity and mortality.

Aim of the study. This study focuses on the women who reported RPL, without any positive pregnancy and the identification of genetic factors that lead to the formation of thrombosis (F2 G20210A, F5 G1691A, MTHFR C677T, MTHFR A1289C, MTR A2756G, MTRR A66G), involved in fibrinolysis (PAI-1 4G/5G) and their association with primary female infertility.

Materials and methods. Research design was constructed as case-control type. The case group was represented by 44 patients with RPL, without any positive pregnancy, with normal karyotype, and lack of other causes (intrauterine infections, uterine pathology) responsible for the RPL. The control group included 57 patients with 2 positive pregnancies who did not receive anticoagulant treatment. The Odds Ratio (OR) was calculated for the case group and control group, at a 95% confidence interval, and p values <0,005 were considered statistically significant. OR>1 demonstrate a strong association between mutation and RPL, OR<1 show a weak association.

Results. We found that G1691A mutation in F5 gene encoding factor V (Leiden) (for heterozygous genotype OR=8,84; 95% CI; 1,02-76,42; p<0,05) and mutation G20210A in gene F2 encoding factor II (prothrombin), (for heterozygous genotype OR=7,18; 95% CI; 0,81-63,87; p<0,05), are major risk factors for RPL and primary female infertility. Carriers of the homozygous genotype after mutant allele were not determined in either group. The 4G/5G polymorphism of the PAI-1 gene, in this study was not associated with RPL and primary female infertility. Analysis of genes involved in folate cycle as MTHFR C677T mutation (OR=3,33; 95% CI; 1,37-8,09; p<0,05 for the heterozygous genotype and OR=3,73; 95% CI; 0,99-14,05; p<0,05 for the homozygous genotype after the mutant allele), MTR mutation A2756G (for the heterozygous genotype OR=2,91; 95% CI; 1,19-7,08; p<0,05 and for the homozygous genotype after the mutant allele OR=6,30; 95% CI; 1,17-34,03; p<0,05), MTRR mutation A66G (for the heterozygous genotype OR=2,40; 95% CI; 1,02-5,62; p<0,05 and for the homozygous genotype after the mutant allele OR=5,77; 95% CI; 0,99-33,68; p<0,05), demonstrated that these polymorphisms are major risk factors of RPL and primary female infertility. A1289C mutation of the MTHFR gene was not associated with RPL and primary female infertility.

Conclusion. According to the results of the study, it is recommended the genetic diagnosis of all patients with RPL, without organic or infectious causes, for detection of the genetic factors involved in hereditary thrombophilia.

Key words: hereditary thrombophilia, recurrent pregnancy loss, primary female infertility

316. CLINICAL AND CYTOGENETIC VARIATIONS IN MALE INFERTILITY CAUSED BY KLINEFELTER SYNDROME

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Introduction. Klinefelter's syndrome (KS) is the most common genetic cause of human male infertility characterized by gynecomastia, hypogonadism and azoospermia. About 80–90% of patients with Klinefelter's syndrome have an homogenous 47,XXY karyotype, the classic form of Klinefelter's syndrome. The prevalence of Klinefelter's syndrome is 1 in 700 men. Many patients with Klinefelter syndrome remain undiagnosed due to clinical variations.

Aim of the study. The purpose of this study is to establish the peculiarities of clinical and cytogenetic variations in male infertility caused by Klinefelter's syndrome

Materials and methods. A group of 75 men suspected with Klinefelter syndrome was clinically-genetically assessed during medical genetic counseling at the Center for Reproductive Health and Medical Genetics of the Institute of Mother and Child. Karyotyping of peripheral blood lymphocytes according to standard methods G was used for confirmation of diagnosis.

Results. The average age of patients with Klinefelter syndrome was 32.7, the main reason for consulting was infertility. The most common chromosomal abnormality diagnosed in the 35 patients with Klinefelter syndrome was homogeneous trisomy 47,XXY (30 cases - 85.7%), followed by mosaic form (47,XXY/46,XY: 3 case), polysomy X-Y (48,XXYY: 1 case and pentasomy - 49,XXXXY: 1 case). The main phenotypic aspects in men with KS were: hypogonadism, gynecomastia, azoospermia, decreased penis size, mental retardation, increase level of FSH. Most patients with Klinefelter syndrome were significantly taller than patients with normal karyotypes.

Conclusions. Medical genetic counseling and cytogenetic analyzes (karyotyping) are necessary for confirmation of clinical diagnosis in patients suspected with Klinefelter's syndrome.

Key words: Klinefelter syndrome, infertility, diagnosis, karyotype, cytogenetic testing

317. HUMAN CHIMERAS

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Introduction. The fundamentals of genetics states that every organism has one type of DNA that is present within any cell, and each cell of one body contains the same DNA. There is no law without any exception. Genetic chimeras are organisms that own two cell lines, meaning they have cells that contain different DNA. At first glance this phenomenon seems impossible, as nature accepts no mistake, but the existence of these organisms is undeniable. Chimeras live around us, and without an DNA test they cannot be spotted, as they present no specific or abnormal features. The frequency of chimerism is still unknown, as no one tests for it.

Aim of the study. The main goal of this research is to report an interesting and poorly known phenomenon, along with its particularity and recent scientific researches in the domain.

Materials and methods. For this research, scientific reports from various on-line platforms as CELL press, or PLOS Biology were used, along with other informative sources from internet.

Results. The result of this research is a short glance into the future of genetics, as the study of chimerism leads towards a new scientific branch that seems appealing to biologists, organ engineering.

Conclusions. Chimeras are one of the most marvelous examples of natural wonders, and understanding the way they are created, can lead humanity to the understanding of its own origin, the origin of life.

Key words: Chimera, Two cell lines, different DNA.

318. GENETIC MECHANISMS OF DRUG RESISTANCE IN CANCER CHEMOTHERAPY

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Introduction. One of the major problems in cancer chemotherapy is the development of drug resistance during treatment. Currently, 90% of failures in chemotherapy are during the invasion and metastasis of cancers related to drug resistance that can develop in different mechanisms.

Aim of the study. To study genetic mechanisms of drug resistance in cancer chemotherapy.

Materials and methods.: This paper is a descriptive research, based on retrospective analysis. Analysis of statistical data, current management documents, reports, studies, bibliographic and digital sources have been carried out with reference to the topic.

Results. The study of the genetic mechanisms of drug resistance in the treatment of cancer has identified the presence of different extracellular and intracellular mechanisms: tumor heterogeneity, tumor microenvironment, cancer stem cells, inhibition of cell death, inactivation of anticancer drugs, multi-drug resistance (MDR), changing drug metabolism, changing chemotherapeutic agents targets, enhancing DNA repair, gene amplification, epigenetic changes, microRNA. Responsible for multiplication, growth and metastasis have been shown to be some genes that encode for kinases. According to the latest studies, use of kinase inhibitor preparations is effective in both stopping progression of cancer and increasing the intracellular concentration of the preparation in MDR cells.

Conclusions. Cancer drug resistance is a complex phenomenon determined by numerous mechanisms and some genes. Gaining knowledge about these particularities and performing genetic tests make it possible to avoid the misuse of the preparations, in order to prevent the chemotoxicity on the organism and affect the systems with a high division rate.

Key words: Cancer, multi-drug resistance, epigenetic changes, kinases.

319. DEFECTS IN SPERMATOGENESIS OF MEN WITH Y CHROMOSOME MICRODELETIONS

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Introduction. Male infertility has multiple etiology, most commonly caused by spermatogenesis disorders, clinically manifested by oligo/azoospermia. Until recently, Y microdeletion had little clinical significance since men with a deletion were considered unable to reproduce. However, by utilizing of Intracytoplasmic sperm injection (ICSI) and Testicular sperm extraction (TESE) it is now possible for oligo/azoospermic men with Y microdeletion to father children.

Aim of the study. To analyze the type of defect in spermatogenesis associated with specific Y deletions found in our IVF program, for prevention the transmission of these deletions through ICSI to offspring.

Materials and methods. A group of 46 infertile men were investigated during genetic counseling among infertile couples referred for ART treatment. Criteria for including patients were fulfilled if they presented with oligo/azoospermia, raised or normal levels of FSH, LH and testosterone. Genomic DNA was isolated and used to analyze AZF microdeletions by PCR. The regions and sequence-tagged sites of AZFa (SY86, SY84), AZFb (SY127, SY134), and AZFc (SY254, SY255) were sequenced by multiplex PCR. Five non-obstructive azoospermic men had Y chromosomal microdeletions. All five Y-microdeleted men underwent microsurgical observation of testicular architecture and quantitative histology of spermatogenesis in a strip of testicular tissue. The results were compared with the different type of Y microdeletion.

Results. Deletions of Y chromosome were seen in the AZFc regions of 2 patients, deleted markers were sY254 and sY255. In both men with AZFc deletions, the histological defects were variable, but no sperm were found. In only one case the defect of Sertoli cell-only syndrome (SCOS) in patient with microdeletions in each region of AZFa-sY84, sY86; AZFb-sY127, sY134; AZFc-sY254, sY255 was present. One patient with deletion of AZFb (SY127, SY134) had spermatogenic maturation arrest. In all men with AZF microdeletions of the Y chromosome, we found severe spermatogenic defects: however, we also did not find, in all of them, mature sperm sufficient for ICSI. The patients were advised to use sperm from the donor for ICSI and IVF.

Conclusions. This study highlights for all couples with the diagnosis of male infertility with oligo/azoospermia the need of genetic testing and counseling prior to employment of assisted reproduction techniques. This is important for providing a firm diagnosis and fertility treatment to couples with infertility and for prevention of the transmission of AZFc deletions through ICSI to offspring.

Key words: male infertility, PCR, deletion, AZF region

320. GENETIC ASPECTS OF VON WILLEBRAND DISEASE

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Introduction. Von Willebrand disease (VWD), the most common inherited bleeding disorder in humans, is a heterogeneous disorder caused by a partial quantitative (type 1 VWD), qualitative (type 2 VWD) or severe quantitative (type 3 VWD) deficiency of von Willebrand factor protein (VWF). It is characterised clinically by mucocutaneous bleeding, such as epistaxis and menorrhagia, and prolonged bleeding after surgery or trauma. VWF is a large, multimeric protein that plays a role in platelet adhesion and serves as a carrier for the thrombotic protein factor VIII. The VWF gene is located at the short arm of chromosome 12 (12p13.31). Depending on its type, VWD can either have an autosomal dominant inheritance pattern (type 1, type 2A, 2B, 2M) or an autosomal recessive inheritance pattern (type 2N and type 3).

Aim of the study. Expanding the understanding of the genetic basis of different types of VWD.

Materials and methods. This study is based on a review of different articles from the open access data bases: PubMed, OMIM, SpringerLink.

Results. In type 1 VWD mutations are located throughout the VWF gene from the promoter region to exon 52 and the majority are missense mutations (75%), whereas splice, deletion, nonsense, insertion, duplication, and large in-frame deletions mutations comprise minor proportions. The most common locations for mutations in type 2A VWD are: the A2 domain (p.Arg1315Cys, p.Arg1374Cys and p.Arg1374His), D3 domain (missense mutations are located in ex22 and 25 to 28, many introducing/substituting cysteine residues; replacement of p.Cys1130 is the most common change), D2 domain (mutations are recessively inherited and are located in ex11 to 16), and CK domains (mutations affect ex51 to 52). Mutations in type 2B and 2M are located in the A1 domain (ex 28). Type 2N VWD is caused by mutations in ex 17-20 and 24-25 (missense mutations or null allele). The most frequent mutation in the European populations is p.Arg854Gln, for which ~1% of individuals are heterozygous. In type 3 VWD the mutation location is 5' VWF-Ex52 (missense mutations or null allele).

Conclusions. VWF mutations are located throughout the VWF gene, resulting in a wide range of mutation types that cause quantitative and qualitative disorders. VWF protein is involved in several processes that can be damaged by mutation, and the varying phenotypes in VWD illustrate the processes that are impaired.

Key words: von Willebrand disease (VWD), mutation, bleeding disorder

321. GENETIC PREDISPOSITION IN GASTRIC CANCER

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Introduction. Gastric cancer is a neoplasm with a starting point in the gastric mucosa, representing one of the most common malignant visceral locations. Although a decreasing incidence globally, gastric cancer remains one of the most common causes of cancer death. Diagnosed in the early stage, it is curable, but unfortunately, most cases are identified late, in advanced stages.

Aim of the study. Elucidation of predisposing factors and molecular mechanisms underlying gastric cancer development.

Materials and methods. Exploring bibliographic sources using databases: PubMed, Google Scholar

Results. Gastric cancer presents a multifactorial pathology caused by the interaction between environmental factors - *Helicobacter Pylori*, major cancer agent - and the genetic factors of the host organism. Genetic predisposition plays a major role in gastric carcinogenesis, as there are classes of genes involved in mucosal protection, immune response to *H. pylori* infection, carcinogen detoxification, antioxidant protection, DNA damage repair and ability to cell proliferation. The protective genes of the gastric mucosa are the mucin genes. The subtypes MUC1 (G allele at rs4072037), MUC2, MUC5AC, MUC6 and the genes of the trefoil peptide-pS2 peptide, factor 1 (TFF1), spasmolytic polypeptide (SP) and intestinal ITF factor). Detoxification genes: cytochrome P450 (CYP450) linked to metabolism I-CYP1A1 (Ile462Val), CYP2E1 and CYP2C19. Glutathione S-transferases (GSTs) in Phase II play a role in protecting cells against the onslaught of chemical carcinogens. The pro and anti-inflammatory genes IL1B, TNF, LTA, IL 6, IL1RN, IL 10 and TGF B, play a key role in the development of CG. DNA-repair genes include methylenetetrahydrofolate reductase (MTHFR-

C677T mutation, XRCC1 gene (Arg194Trp), HOGG1 with TT genotype, xeroderma pigmentosum (XPF) (rs744154) increase susceptibility. Tumor suppressor genes: p53 (Arg / Arg), p53CD72 associated with genetic susceptibility to gastric cancer is an important biomarker. *H. pylori* infection and p53 mutation have been shown to have a synergistic effect. NM23 is the first confirmed suppressor gene for tumor metastases.

Conclusions. The study is based on the analysis of genetic variants that confer a higher risk of CG and their interactions with environmental factors, respectively *H. pylori* infection. Candidate gene polymorphisms in gastric cancer susceptibility. A deeper understanding of the factors involved in the development and progression of CG may allow the identification of persons at risk and can provide useful predictive information for the subgroups of patients who need early treatment or surveillance strategies.

Key words: Gastric cancer, genetic predisposition.

322. THE GENETIC PARTICULARITIES IN PAPILLARY THYROID CANCER

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Introduction. Papillary Thyroid Cancer (PTC) is taking the 1st place in malign processes of endocrine system, being also the most studied problem in cases of thyroid gland cancer. PTC is taking 40-85% from the total of the thyroid cancer in the past few decades. This is because of the human activity in the past- pollution of the environment, the rise of the radioactivity in the water, air and ground, registered a sudden rise in morbidity in EU and USA. We would like to mention the genetic factor in etiology of PTC. It has been recently shown that these tumors commonly have one of three genetic alterations: BRAF point mutations, RET/PTC rearrangements, or RAS point mutations. This factor has to have a substantial role in precocious diagnosis of the cancer and prognosis after the surgical treatment.

Aim of the study. To elucidate the role of the genetic modifications in pathogenesis and cancerogenesis of the disease

Materials and methods. We performed a retrospective study on a group of 50 patients with thyroid cancer, who were investigated: clinical, ultrasound, histological and laboratory (thyroid hormone level) and treated in the oncological “Head and neck” department of the Institute of Oncology between December 15- May 30, 2019 . The study included primarily diagnosed cases with CPT after surgical intervention. Data on the main risk factors, demography and tumor location have been collected from medical records. We will classify the patients after age, sex, cancer stage, evolution rate, data about the family anamnesis: the presence if the thyroid nodular disease and the presence of another neoplastic processes in relatives.

Results. 83% of patients were diagnosed with CPT, 80% are female, middle age of involvement of 51-60 years old (38%). We observe hypoplasia of the thyroid gland on 6 patients (12%); hyperplasia of grade I-II on 27 patients (54%); hyperplasia of grade III-IV on 16 patients (33%). According to hormonal levels, euthyroidism, had 18 patients (37%); hypothyroidism 10 patients (21%); hypothyroidism 21 patients (42%). CPT patients were diagnosed in pTNM following stages: st.I T1N0M0, 7 patients (15%); st.II T2N0M0, 22 patients (45%); st.III T3N1M0, 15 patients (30%); st.IV T4N1M1, 5 patients (10%). From the studied group, 19 patients have relatives with nodular pathology of the thyroid gland (37%).

50% of the patients have an aggravated hereditary anamnesis. We studied the genealogical trees of the patients; we found out that: in 25 families of 2 and more relatives (gr.I and II) with cancer (thyroid, colorectal, breast, ovarian, malignant melanoma cancer) and thyroid nodular pathology.

Conclusions. From the point of view of molecular and genetic side, PTC is heterogeneously and it needs new approaches of genetic modifications in clinical practices. The proportion of patients with cancer is increasing with age, aggravated hereditary and personal anamnesis. It is necessary to introduce screening by genetic exam for high-risk patients.

Key words: Papillary Thyroid cancer (PTC), genetic modifications, genetic testing, screening, mutations

DEPARTMENT OF MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY

323. CYANOBACTERIA PIGMENTS: POTENTIAL ALTERNATIVES AGAINST ANTIBIOTIC-RESISTANT BACTERIA

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Introduction. The increasing number of multidrug-resistant bacteria in the last decade has left clinicians with very few medication options, usually resulting in the use of more expensive treatments. The demand of new therapeutic approaches encourages the discovery of new natural products with possible antimicrobial activity.

Aim of the study. Therefore, the aim of this study was to look for active substances that could be used as antibacterial agents. To achieve this objective, two different fractions (myxoxanthophyll and phycocyanin) from *Spirulina platensis* were investigated. Myxoxanthophyll is a carotenoid glycoside yellowish pigment present in the photosynthetic apparatus of *Arthrospira (Spirulina) platensis* and phycocyanin is a protein complex, accessory pigment to chlorophyll also present in *Spirulina platensis*.

Materials and methods. The cyanobacteria extracts were tested *in vitro* for their antibacterial proprieties against (*Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Staphylococcus aureus* and coagulase-negative staphylococci) using macro dilution method Ericsson and Sheris. The Time-kill kinetics assay (CLSI M26) was used to study the bactericidal activity of the *Spirulina platensis* extracts against bacterial strains over the time.

Results. By means of the broth macro dilution assay, it was found that microalga extracts possess pronounced antibacterial activity against *Acinetobacter baumannii* (MIC: 0,0275 mg/ml for myxoxanthophyll and 0,18 mg/ml for phycocyanin). In the case of coagulase-negative staphylococci the antimicrobial activity of *Arthrospira platensis* fractions was low. Gram-negative bacteria showed to be more sensitive to the action *Spirulina platensis* pigments than Gram-positive bacteria. Also, it was found that myxoxanthophyll possess bacteriostatic and bactericidal action at a lower concentration than the phycocyanin. At a concentration of 0,04 mg/ml myxoxanthophyll could kill 100% bacteria in approximately 4 hours, and the time-kill for phycocyanin was about 8 hours at the concentration 0,72 mg/ml.

Conclusions. Further in vivo studies are required to investigate *Spirulina platensis* fractions potential toxic effects. In particular researches are needed to evaluate the use of control-release formulations in order to maintain the *Arthrospira platensis* pigments concentrations at antibacterial active doses.

Key words: Antibacterial resistance, reducing pathogens, *Spirulina platensis*, organic antimicrobials

324. INTERFERONS. UTILIZATION IN ANTIVIRAL THERAPY

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Introduction. IFNs are a class of soluble glycoproteins with a strong antiviral activity, classified into three types: Type I (IFN- α/β), II (IFN- γ) and III (IFN- λ). Because of the clinical failures using only antiviral medications and the generation of drug-resistant strains, IFN treatment became a good option because it targets the host's immune response and not the specific viral proteins.

Aim of the study. Study and analysis of existing data in the literature on antiviral activities of IFN and their use in antiviral therapy in human diseases.

Materials and methods. The presentation represents a literature review based on previously completed research into the role of IFN in the treatment of viral diseases.

Results. Because of their ability to modulate immune responses, IFNs have become attractive therapeutic options in controlling chronic viral infections. Type I IFNs were part of standard treatment for VHC and VHB infections and no IFN-resistant viral subpopulations were observed. In addition, there is an increased interest in testing the antiviral efficacy of type III IFN in HCV infection, based on the fact that the type III IFN receptor is more restricted in its expression and is present on the hepatocytes. IFN- γ combined with highly active antiretroviral therapy (HAART) dramatically reduced morbidity and mortality associated with HIV, being used successfully in treating opportunistic infections associated with HIV.

Conclusions. Although they are effective, IFNs need to be used with caution, because they are powerful cytokines that affect a wide range of cells; as a result, patients usually had side effects and a part of them had systemic effects.

Key words: Interferons, type I IFN, type II IFN, type III IFN, antiviral therapy.

325. HELICOBACTER PYLORI INFECTION. DIAGNOSTICS METHODS

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Introduction. More than half of the adult global population are carriers of *H.pylori*, a Gram-negative microaerobic human pathogen, which is associated with various gastroduodenal diseases. Diagnostic tests are divided into noninvasive (UBT, SAT, serology) and invasive

methods (culture, histology, PCR, RUT). Using the appropriate test is important to avoid diagnostic error.

Aim of the study. The aim of this paper was to review the application principles of *H. pylori* diagnostic methods in practice.

Materials and methods. A systematic literature search for both original researches and review articles in biomedical databases was made through Google scholar, PubMed and Medline.

Results. UBT is useful to confirm eradication and screening, no sampling errors, useful for children with false negative result in case PP, antibiotics intake, gastric pathologies and false positive in case of urease positive bacteria growth, also it doesn't provide data about bacterial resistance. SAT is preferred in children rather than serological and UBT which may be equivocal or difficult to perform with false positive in case of contamination or cross reaction with other species. It is affected by the stool quality without data about resistance. Serological test is the cheapest without false negative result except in early infection, which is recommended for screening because it is not influenced by GIT pathologies and drugs but without data about resistance and differentiation between active and past infection. RUT need at least 10000 organism to obtain a positive result with false negative result due to PPI and achlohydria and false positive result due to other urease positive bacteria. PCR provide data about antibiotic resistance, its limitations are the cost, equipment, time, skilled staff. Culture provide data about antibiotic resistance but it is the most expensive method and time-consuming. Histological examination limitation is due to the dependence on the operator skill, interobserver variability, site, size, number of biopsy taken and staining method type.

Conclusions. The choice of diagnostic tests to determine *H. pylori* infection status depends on the sensitivity, specificity, availability, cost, and rapidity of the results, laboratories level, the patients clinical status. Unfortunately, none of the currently used methods are able to fulfill this criteria. One solution is to combine the results of two or more techniques, and compare with results of each method being evaluated.

Key words: *H.pylori* , invasive and Non-invasive methods

PUBLIC HEALTH SECTION

326. THE EFFICACY OF DIETS FOR WEIGHT MAINTENANCE AND FUTURE WEIGHT VARIATION

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Introduction. Approximately 80% of individuals who intentionally achieve weight loss of $\geq 10\%$ body weight will regain that weight within one year (yo-yo effect). By between 1 and 5 years after finishing a hypocaloric diet, around 95% of people return to their initial weight (Brownell & Rodin, 1994).

Aim of the study. To investigate the association between history of multiple weight loss diets followed by weight regain, namely weight cycling (WCy).

Materials and methods. This study is based on a literature review of different articles from the open access data base <https://www.ncbi.nlm.nih.gov/pubmed> and scientific papers.

Results. The results show a large range of deviation due to their different intervention and follow-up-periods. In one study the high-protein diet achieves a weight maintenance of 9.7% after twelve months. In other study, low-fat diets can stabilize a 18% weight reduction from the original weight after nine months. Three study results about effectiveness of high-carbohydrate diets are available (Journal of the American Dietetic Association, 2005). One study shows a weight loss of 13% after 15 months, the second study 8% weight loss after twelve months, the third study shows 4% after 30 months. Five studies deal with the effectiveness of reduced energy consumption on a permanent weight maintenance (The Journal of Clinical Endocrinology & Metabolism, 2003). About one year after the end of intervention a weight reduction of 7.6 to 9.4% can be maintained with this type of diet. After nearly 30 months the weight reduction is 4%. Only one study deals with the effectiveness of vegan diets. It records a weight loss of 5.6% after one year and 3.5% after two years. Six studies examine formula-diets as successful weight reduction and maintenance measure. However, the results vary considerably and range from 2.5% weight reduction after 34 weeks to about 10% in the follow-up after twelve months (Dieter Korczak, 2013).

Conclusions. The aim to maintain a 10% weight loss in comparison to the original weight over a long period is challenging. These findings support the importance of designing adequate weight loss programs to achieve long-term weight maintenance. Combined programmes consisting of diet and physical activity obtain a bigger long-term weight loss than an intervention which is based only on diet.

Key words: diet, weight cycling, yo-yo effect, weight-loss.

327. THE PROBLEM OF THE HEADACHE AMONG THE STUDENTS OF VINNYTSIA NATIONAL MEDICAL PIROGOV MEMORIAL UNIVERSITY

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Introduction. According to the scientific medical literature, about 70% of patients suffer from tension headache. 64% of them do not turn to the doctor that is the problem in the diagnosis, treatment and prevention of diseases.

Aim of the study. To conduct a questionnaire among students of the VNMU and determine frequency, intensity, triggers of the headache, to find out clinical diagnoses of respondents. Determine which medicaments are most effective to relieve the symptoms of the headache.

Materials and methods. Data of students questionnaire according to the self-designed questionnaire, information from the scientific literature, statistical method

Results. Owing to questionnaire it was determined, that 195 students — all 100% — had complaints of the headache. Complaints of the low headache intensity had 45 (23%) students, of the medium intensity — 125 (63%) and of the high intensity — 27 (14%) students. The frequency of the headache was as follows: everyday — 6 (3%), 2-4 times per week — 43 (22%), once a week — 40 (21%), once a month — 37 (19%), twice a month — 35 (18%), once a few months — 16 (8%), 1-3 times per 6 months — 14 (7%) and once a year — 4 (2%). Concomitant symptoms were: weakness — 27 (14%), tachycardia — 35 (18%), nausea/vomiting — 71 (36%), sound- or photophobia — 31 (16%), increased blood pressure — 35 (18%), decreased blood pressure — 19 (10%). Triggers were: fatigue — 53 (27%), stress — 130 (67%), lack of

sleep/insomnia – 88 (45%) and the weather impact – 57 (29%). All students used drugs to relieve the symptoms of the headache: Citramon – 63 (33%), Spasmalgon – 51 (26%), Ibuprofen – 30 (15%), Analgin – 18 (9%), Paracetamol – 18 (9%), No-Spa – 15 (8%). Besides drugs some respondents used non-pharmacological methods: sleeping – 93 (48%) and rest/relaxation – 49 (25%). 23 respondents turned to the doctor. They were diagnosed with the following: 4 – migraine, 10 – non-classified headache, 2 – hypertension, 6 – tension headache, 1 – vertebral-basilar insufficiency.

Conclusions. Owing to questionnaire it was found that practically all interviewed students of Vinnytsia national medical Pirogov memorial University suffer from headache, but only 23 (12%) turned to the doctor. It creates significant difficulties for adequate diagnosis, treatment and prevention of diseases. All respondents are self-medicated. Citramon, Spasmalgon and Ibuprofen are used most frequently among other drugs. The total majority of respondents suffer from the headache of medium intensity. The most often trigger of the headache is stress. The most common frequency of the headache is 2-4 times per week.

Key words: Headache, students, triggers, medicaments

328. SOME ASPECTS OF NUTRITIONAL STATUS OF TEACHERS FROM THE REPUBLIC OF MOLDOVA

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Introduction. The poor eating habits of the teachers were related to the unbalanced energy intake in relation to energy expenditure, sedentary activities; thus, it was proven to lead to: increased absenteeism from work, reduced productivity, chronic illnesses and reduced life expectancy.

Aim of the study. To study nutritional status of teachers from the Republic of Moldova.

Materials and methods. The study was descriptive and transversal in design. A random sample of 275 teachers (34 males and 241 females) aged 22 to 60 years from institutions of general education from 17 districts of the Republic of Moldova. A special questionnaire was used, including general data, living and workplace conditions, nutritional and health status. Data was analyzed using descriptive statistics and Pearson's Chi-square test at 5% level of significance was applied to the data.

Results. The mean age of teachers was 43 ± 8.32 years, of which 5.2% males and 94.8 females, 67.5% are from rural areas and 32.5% - from urban areas. Regarding the number of meals per day only 5.2 % of them feeds three times a day, 36.4% - less than two times; 35.1 % - don't kept the account, 67.5% - have breakfast, 13.0 % - they have no opportunity to feed in the morning. In terms of dietary diversification most (51.9%) of the teachers either had at least medium (≤ 1 food group) while 20.8% had high (≤ 3 food groups) dietary diversity. Regarding fruit and vegetables consumption 6.5% doesn't eat any vegetables and 9.1% doesn't eat any fruits in day, only 50.7% and 49.1% can afford to eat fresh vegetables and fruits respectively, more than three times in day. More than 33.8 % never eat fish weekly, 64.9% eat fish 2 or 3 times in week, only 1.3 % eat fish daily. 49.4% of teachers never eats in a fast-food restaurant, 24.7% eat two or three times in week, and 26.0% less than once a week. The most preferred fast food meals for teachers are hamburger and fries (36.7%), 34,7 %- soft drinks, 28,6 %-attend fast-

foods for a coffee. 2.5 % of the teachers are cigarette smokers, and 54.5 % are moderate alcohol consumers respectively. The teachers drink in average 0.8 l/week of alcoholic drinks, the most preferred are: 47%- wine; 35%- beer; 18%-strong drinks (vodka).

Conclusions. Teachers health is influenced by a variety of risk factors including a poor and unbalanced diet. Therefore, it is very important to promote the principles of rational nutrition and healthy behavior among teachers.

Key words: teachers, nutritional status, lifestyle.

329. HEARING SCREENING PROGRAM IN CHILDREN FROM PRIMARY SCHOOLS IN POLAND

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Introduction. Hearing is one of our most socially important sensory organs , violations of which lead to improper perception of sound and the development of speech and, as a result, to a violation of human social functions. Critical is the early detection of hearing pathologies and, as a consequence, the introduction of appropriate therapy and rehabilitation. This gives us the opportunity to promptly and adequately respond and eliminate the emerging problems.

Aim of the study. Analysis of hearing screening of primary school children in Poland

Materials and methods. Hearing screening was conducted in a group of 290 children from two primary schools in Poland (Warsaw). Screening was performed using the Senses Examination Platform according to the audiometric procedure of hearing thresholds measurement. Positive result of HTL in screening was defined as equal or more than 25dB at least at one frequency at in either ear.

Results. Positive results of hearing screening were obtained in 4.82% of tested children. All the tests were performed according to accepted standards. in case of 14 children additional tests were conducted. Bilateral hearing loss was diagnosed among 50% of children with hearing impairment.

Conclusions. Obtained results confirmed the fact of a moderate amount of hearing impairment in school aged children. On the basis of the results we strongly recommend the implementation of hearing screening as a routine procedure in school health care.

Key words: Screening, Hearing tests, Hearing loss

330. BURNOUT SYNDROME PREVALENCE BETWEEN YOUNG DOCTORS OF TARGU MURES

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Introduction. The burnout syndrome (BS) is considered according to the World Health Organization to be a mixture of energy depletion, increased mental distance from one's job and a reduced professional efficacy. According to S. Brand and E. Holsboer-Trachsler, BS is more

likely to affect individuals from professions that require a higher degree of responsibility and frequent human interactions, therefore placing doctors in a high-risk category.

Aim of the study. The aim of this study was to assess if young doctors are exposed to BS in their residency and to determine their levels of BS

Materials and methods. Using an anonymous questionnaire based on the Maslach Burnout Inventory that comprised a number of 25 questions directed in 3 dimensions, we recorded 60 entries from doctors found in their residency. Each one of the 3 directions (emotional exhaustion, depersonalization and professional realizations) delivered a score that was later summed up and compared to preset results. The scores were interpreted as following: 0-25 points resulted in an equilibrium at the workplace; 25-50 – prone to develop BS; 50-75 – on course to develop BS; >75 – BS. Using descriptive statistics and a one-way Anova test we managed to determine some interesting results.

Results. Out of the young residents from the nine medical departments that contributed to this study, the ones from 8 of them displayed BS, while the remaining were on course to develop BS, the average score being 78.37 out of 100. Out of the 9 medical departments, the residents from the occupational medicine department displayed the highest levels of BS with a value of 82.08.

Conclusions. The BS is a serious disorder that threatens the medical system here in Targu Mures, making young residents prone to errors and therefore placing patients at risk. Furthermore, by placing this actual study next to a similar ones from Romania, it can be observed that the BS is common through the whole Romanian medical system meaning that national measures to treat and prevent this syndrome are in order.

Key words: burnout, stress, exhaustion

331. ASPECTS REGARDING SELF-MEDICATION AMONG STUDENTS

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Introduction. Self-medication represents the process of administering substances for physical or psychological symptoms, without the advice of a physician. At the population level, studies show that the prevalence of self-medication is high among young adults due to the level of education, accessibility to Internet services, as well as knowledge regarding medicines, being a common problem among students, especially students from the healthcare sector.

Aim of the study. This study evaluates the prevalence, practices and attitude towards self-medication of the students from the University of Medicine, Pharmacy, Science and Technology of Targu Mures.

Materials and methods. We conducted a cross-sectional study among 403 students (87,6% female, 12,3% male) from the University of Medicine, Pharmacy, Science and Technology of Targu Mures. The respondents were 1st to 6th year students from the Faculty of Medicine, Faculty of Dental Medicine and Faculty of Pharmacy. The participants responded to an online 23 questions survey which included informations regarding demographics, self-medication practices and attitude towards self-treatment.

Results. Self-medication was highly popular among students, 94,5% of the respondents claimed that they used self-medication. The most common factors that led to the decision of self-treatment were: the positive experience with a medication used in the past (76,9%), urgent

condition (33,6%) and self-confidence regarding own medical competences (32,8%). Headache (81,9%), menstrual symptoms (73,5%) and fever (64,57%) were the most frequently described symptoms. The most commonly used drugs were anti-inflammatory drugs (85,3%), analgetics and antipiretics (83,46%), vitamins and supplements (68,77%) and laxatives/antidiarrheal medicines (46,72%). Most of the students (83,4%) claim that they are against self-medication, but it can still be used in certain situations, while only 2,2% were completely against self-medication.

Conclusions. Self-medication is a common practice and its occurrence is tremendously high among students. However, the attitude of the students towards self-treatment was mainly negative, according to them, this could only be used in specific situations.

Key words: self-medication, students, survey

332. ROAD TRAFFIC INJURIES SURVEILLANCE - A PILOT STUDY IN THE REPUBLIC OF MOLDOVA

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Introduction. Road injury is a worldwide public health problem. More than 1.3 million people die and 20-50 million are injured annually, at the global level, as a result of the injuries caused by road crashes. It is the basic cause of the mortality of young people aged 15-29 years. Road injury is ranked ninth after the main causes of death and is forecast to rank fifth by 2030. The Government of the Republic of Moldova elaborates the National Strategy for Road Safety 2011 – 2020, which is a document of coherent and unitary policies in the field of road safety in the Republic of Moldova, in the long term, which appeared as a result of the unsatisfactory results of the existing policies in the field along with an imposed number of road injuries registered.

Aim of the study. The aim of the study was to evaluate the morbidity indicators through injuries caused by road crashes among the population of the Republic of Moldova.

Materials and methods. A prospective study was performed during 2018 within Emergency Departments of 2 medical institutions from Chisinau municipality: Emergency Medicine Institute and Children's hospital "Valentin Ignatenco". A pilot iCREATE Injury Registry was tested. A total number of 7301 patients with different types of injuries reported. The Redcap electronic tool was used to upload the data and SPSS for data analyzes. The ethics committee's approval has been obtained.

Results. There have been 324 (4,4%) cases of injury which reported traffic-related mechanism; aged between 0-91 years old, of which 63% were male and 37 female. In 75,3% of cases occurred in the urban area and in 93,8% of cases injuries were within the transport area. As a result of road injury, 71% of patients had by one distinct injury and 29% - with 2 one. From the total number, 5,3% cases were with Traumatic Brain Injury diagnoses, from those: 64,7% concussion, 29,4% cerebral laceration, contusion and other intracranial injuries to the head and 5,9% fracture of the skull. Most injuries were unintentional statements. In half of the injuries the type of transport involved in was light motor-vehicle and in 13,4% with two-wheeled motor vehicle. The majority of injured persons were drivers (36,1%), pedestrian (29,8%) and passengers (29,1%). For half of the patients, it was unknown if the seatbelt was used, 14% did not, while only 36% - use the seatbelt. Child safety restraints were used in only 17%, in 76%-

not known and in 7% -not used. Most cases were registered in June (13,3% cases), March and October (by 11,6% each).

Conclusions. The results of the study revealed the main indicators needed to be evaluated, which are necessary to argue for the need for a national trauma registry. Meanwhile, the obtained data will be useful resources for conducting information campaigns among the high-risk groups.

Key words: road traffic injury, pilot injury Registry, head injury, prevention

333. PARENT'S KNOWLEDGE ABOUT CHILDHOOD OBESITY

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Introduction. Childhood overweight or obesity has become a worldwide health problem due to its continuous increase of prevalence and its serious impact on health. In obesity, like in any other chronic pathology that appears in childhood, parents have an important role in monitoring the body weight and preventing future complications.

Aim of the study. The aim of this study was to identify parent's knowledge about childhood obesity and their vision about the nutrition status of their children.

Materials and methods. Our cross-sectional study was conducted over a period of six months (July-November 2019). In this study participated parents with children aged 0-18 years, from Brasov and Mures counties, the sample size being 529 persons. The informations were acquired with the help of a self-administered questionnaire and the statistical analysis was performed using the Statistical Package for Social Sciences software.

Results. After interpreting the data, it can be said that out of the 258 girls included in the study, 34 are obese and 30 are overweight. Regarding the male, out of the total of 271 persons, 49 are obese and 54 are overweight. The correlation between the parent's vision of the nutrition status of their children and the body mass index interpreted with the help of percentiles was statistically significant ($p=0.0001$). Parents who don't consider their children being obese, have, in fact, 19 obese children and 33 who are overweight. A number of 47 parents consider that they have obese children, but among them 85.1% are really obese and 14.9% are overweight.

Conclusions. Firstly, it has been reported more cases of obesity and overweight among boys. Secondly, parents who have obese or overweight children, have a more objective appreciation of their nutritional status and are aware of the health problem their children are facing.

Key words: childhood obesity, nutritional status, parent's knowledge, body mass index

334. THE DEGREE OF AWARENESS OF THE NATIVE MEDICAL STUDENTS REGARDING THE FOOD LABELING THROUGH THE PRISM OF THE OFFICIAL DOCUMENTS AIMED TO PROTECT THE CONSUMER'S HEALTH

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Scientific adviser: Alexei Chirlici, PhD, Associate professor., Department of Hygiene, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Introduction. The measures to inform the consumers about the food products are made by various official documents aimed to protect the consumer's health. For these reasons, is of

interest the attitude and level of knowledge in this field of the native medical students as the future promoters of the healthy lifestyle.

Aim of the study. Analysis of official documents on informing consumers about the nutritional value of foodstuff and assessing the degree of awareness of native medical students regarding food labeling, marketed in their marketing objectives.

Materials and methods. The provisions of official documents regarding consumer's information on the nutritional value of foodstuff were studied and analyzed. Through the questionnaire, developed by the author, a study was conducted within "Nicolae Testemițanu" SUMPh, applied to a sample of 350 native medical students from all courses, estimated by the classical standardized formula, according to age, year of study, gender.

Results. The requirements of official documents regarding the information included in the nutrition statements on the labels of food products were analyzed, taking into account the need to protect the consumer's health, but also to promote harmless foods. As a result of applying the questionnaire, it was possible to use the standardized tool, which allowed to highlight the following items in the research groups: when purchasing food products, they are interested with a greater share of the information on labels from years 2 to 4 (41.6%- 46.2%) and according to gender, girls are more interested (girls- 41.9%, boys- 35.6%). The students, included in the age group 26-27 years, draw more attention to the presence of food additives (77.8%). The absolute majority (92.5%- 96.6%) of the students questioned from years 2 - 6 draw special attention to the validity terms of perishable foods, while their storage conditions are interested 79.6% -88, 5% of students from years 2 to 4. Depending on the gender, girls are more interested in comparison to boys, both the term of validity (94.6%; 89.0%) and the storage terms (83%; 79.5%).

Conclusions. The national legislation on informing consumers about food contains various data useful to protect the health. The results of questionnaires indicate a growing awareness of the native medical students, starting with year 2 of the study, on the importance of becoming familiar with the health claims on food labels, which contributes to the further change of harmful habits, and in perspective- to the formation of a knowledge base and attitudes in order to promote a healthy lifestyle among the population.

Key words: Foodstuffs, consumer information, degree of awareness, native medical students.

335. THE HYGIENIC CHARACTERISTIC OF MEDICAL STUDENTS' NUTRITION

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Introduction. Nutrition is a very important part of the field of population general health, including students. Learning the characteristics, factors, measures of nutrition by the student leads to a significant improvement of the status of healthy person among the students, as well as of all the people.

Materials and methods. It was used a questionnaire of 16 questions related to food. The questionnaire was sent to 100 USMF students of each year. 31 men and 69 women participated.

Results. The result of the survey, the analysis of diagrams and graphs show that healthy nutrition is mostly neglected: 68% of students do not have a well-defined and balanced diet. Using BMI, it was found that 72% are part of normal weight category, 9% - underweight category, 14% - overweight category, 4% - 1st stage of obesity, 1% - 2nd stage of obesity. An alarming find is the fact that students tend to eat during the night: 58% prefer to eat once or twice per night. Also, it is impossible not to notice an inclination for vegetarian diet: 13% of participant are vegetarians and 87% have a mixed nutrition. The results are less positive when it comes to students' favorite food: 70% of students consider that their food is suitable for consumption, 39% prefer high fat food, 29% prefer sweets, 17% go for spicy food and 14% prefer salted food.

Conclusions. This study showed that 68% of the students do not have a balanced diet considering type of nutrition, body mass index and having a schedule to eat at fixed hours. In conclusion, based on the factors mentioned above, a series of measures need to be taken in order to improve the quality of food ration, by motivating students, and to avoid the appearance of pathologies related to food consumption.

Key words: health, improvement, measures, pathologies, body mass index.

336. THE ESTIMATION OF THE HEALTH STATUS OF STUDENTS FROM USMF NICOLAE TESTEMITANU

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Introduction. The health status of young students is a major concern, both locally and globally, because this category of the population contributes greatly to the social and economic development of the state.

Materials and methods. The registers of the students' visit due to illness to the family doctor were used. The addresses of patients were analyzed during 3 years: 2017 - 2019. The total number of people involved in the study was 886 students.

Results. Students who visit the family doctor due to illness, annually, represent a ratio of 8.4% of the total number of USMF students. The most common reasons of USMF students for visiting the family doctor are represented by pathologies of the respiratory system, which have an incidence of 37%, followed by ENT disorders - 23%. This is an important aspect for the further development of health protection and promotion measures. 87% of the students' pathologies present at the moment of the appointment are the acute ones, an obvious prevalence over 13% - chronic.

Conclusions. The results obtained from this study argue the need for complex medical examination of students, immediately after admission, in order to prevent and control existing chronic diseases, rehabilitate students' health and monitor its dynamic during the years of study.

Key words: student, health, stress, diet, sedentary lifestyle, morbidity.

337. EPIDEMIOGENIC SITUATION BY INFECTION WITH METHICILIN-RESISTANT STAPHYLOCOCCUS IN REPUBLIC OF MOLDOVA

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Introduction. Septic purulent infections with methicilin-resistant *Staphylococcus* (MRS) is an important public health problem due to the high number of illness and significant health and socio-economic impact. It is recognized as one of the most common causes of nosocomial infections. In the Republic of Moldova the true incidence of septic-purulent nosocomial infections caused by methicillin-resistant *Staphylococcus* (MRS) is not known.

Aim of the study. To determine the incidence and epidemiological particularities of septic-purulent infections caused by MRS.

Materials and methods. The study includes the results of bacteriological investigations of patients from the multi-profile medical institutions, rural and maternity hospitals. The isolation of *Staphylococcal* strains and determination of their sensitivity to antibiotics were carried out by using the classical method and the automated system VITEK 2 Compact (bioMérieux).

Results. Results of this study showed that in Moldova the spread of MRS is diverse, in the multi-profile medical hospitals – 36,32%, maternity – 61,81%, rural – 22,36%. In 72,13% of cases, strain of methicillin-resistant *Staphylococcus* are coagulase-negative staphylococci, and only 27,87% - are coagulase-positive staphylococci. Polyresistant strains of MRS to antibiotics are increasing, from 78,96% in 2014 to 89,89% in 2017. The prevalence of MRS strains varied depending on the profile of the hospital division and pathological products. A higher isolation rate of MRS strains were seen in patients admitted to the surgical wards, intensive care unit, traumatology and orthopedics, while 76,11% strains were isolated from blood cultures.

Conclusions. Septic purulent Infections with MRS in Moldova is a major public health problem. The results of the study show that the share of MRS strains is ~ 36,32%.

Key words: Methicilin-resistant *Staphylococcus* (MRS), septic purulent infection, polyresistant to antibiotics.

338. ACINETOBACTER SPP. AS NOSOCOMIAL PATHOGENS: EPIDEMIOLOGY AND RESISTANCE FEATURES

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Introduction. *Acinetobacter baumannii* infections are a growing clinical problem affecting all countries of the world. Given the distinct survival ability, *Acinetobacter baumannii* is easily spread in the hospital environment causing nosocomial infections. The risk factors for *A. baumannii* infection include hospitalisation, poor overall condition, circulatory system insufficiency, respiratory system insufficiency, mechanical ventilation, prior antibiotic therapy and presence of foreign materials (such as venous, arterial and urinary catheters). More than 30% of hospital-acquired infections are due to *Acinetobacter baumannii*, and it can cause various types of infections, mostly related to intensive care and invasive treatments (ventilator-associated pneumonia (47% cases), bloodstream infections, surgical site infections, urinary

tract infections (45% cases), skin and soft tissue infections, meningitis). For decades the genus *Acinetobacter* has undergone several taxonomical modifications. In the last few years these organisms are genetically modifying into highly resistant forms resulting in untreatable nosocomial infections and health care associated infections. *A. baumannii* can cause severe or fatal illnesses, especially in critically ill patients with low immune responses, and can increase patient mortality along with hospital costs. Studies show that the mortality rate of hospitalised patients infected with *A. baumannii* is 8-23%, and 10-43% at intensive care units.

Aim of the study. Determining the degree of spread of nosocomial infections caused by *Acinetobacter* spp., nosological structure, epidemiological features, antibiotic resistance.

Materials and methods. A descriptive cross-sectional study was conducted for 2014–2016 on the model of the Republican Clinical Hospital, the Institute of Neurology and Neurosurgery, and the Institute of Emergency Medicine.

Results. In 2014-2016, in the three hospitals mentioned above, 1,005 cases of purulent-septic infections caused by *Acinetobacter* spp. were investigated. Most often they are found in intensive care units, anesthesiology and intensive care (56.32%), surgery (15.72%) and traumatology and orthopedic (14, 82%). The largest share is occupied by *A. baumannii* (98.69%), compared with *A. iwoffii* (0.95%) and *A. haemolyticus* (0.36%). *Acinetobacter* strains are mainly found in monocultures (65.77%), but in 34.23% - in associations in which gram-negative microorganisms significantly prevail (79.86%), including *P. aeruginosa* (33.49%), *K pneumoniae* (17.33%) and *E. coli* (11.48%). In 81.13%, *Acinetobacter* strains are resistant to antibiotics, and only 18.87% are sensitive to them. *Acinetobacter* strains were more resistant to penicillins (97.02%), penicillins + beta-lactamase inhibitors (96.73%), cephalosporins I generation (99.40%), cephalosporins II generation (98.86%), cephalosporins III generations (97.44%), IV generation cephalosporins (93.88%), nitrofurans (98.97%), macrolides (94.38%). A higher sensitivity is manifested in the following groups of antibiotics: cyclic polypeptides (94.42%), tetracyclines (85.12%) and other antibacterial agents (50.96%).

Conclusions. Most infections caused by *Acinetobacter baumannii* have been detected in patients hospitalized in intensive care units and surgical departments. *Acinetobacter baumannii* is resistant to most antibiotics, and sensitivity to the currently used antibiotics is significantly reduced. High prevalence of antibiotic-resistant strains of *Acinetobacter* spp. emphasizes the importance of the use of selective antibiotic therapy and the strict monitoring of measures to combat nosocomial infections.

Key words: nosocomial infections with *Acinetobacter*, incidence, nosologic forms, antimicrobial resistance

339. IMMUNOGENICITY OF INFLUENZA TETRAVALENT INACTIVATED SUBUNIT ADJUVANT VACCINE IN HEALTHY AND IN PATIENTS WITH PRIMARY IMMUNE DEFICIENCY

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Introduction. Vaccination is the most effective means of influenza prevention. The current epidemiological influenza situation in the world indicates that trivalent vaccines are not able to protect the population from all circulating strains of type B influenza virus, that necessitates the improvement and expansion of the composition of the vaccines.

Aim of the study. To evaluate the immunogenicity of influenza tetravalent inactivated subunit adjuvant vaccine in healthy adults and in patients with common variable immune deficiency.

Materials and methods. In a single-center, open-label, non-randomized, prospective, cohort, controlled study before the flu season 2018-2019 were involved 32 healthy volunteers aged 18-50 years and the comparison group which consisted of 6 patients with a confirmed diagnosis of common variable immune deficiency (CVID). All patients received 1 dose (0,5 ml) of the first Russian quadrivalent inactivated subunit vaccine (IIV4) with a decreased amount hemagglutinin protein (20 mkg of influenza H-antigens instead of 60 mkg in standart non-adjuvant IIV4 in the world) due to the use of azoximer bromide (500 mkg per dose). The antibody levels against the influenza type A viruses (H1N1 and H3N2) and two type B viral cell lines (B/Yamagata and B/Victoria) were evaluated using a hemagglutination inhibition reaction. The seroprotection, seroconversion, geometric mean titer rates, CD-subpopulations (CD3+, CD4+, CD8+, CD16,56+, CD19+, CD21+) and expression of toll-like receptors 3, 8, 9 were analyzed.

Results. Adjuvant IIV4 in healthy adults elicited comparable immune response for matched 4 influenza strains with explored non-adjuvant IIV4 in the world. Patients with common variable immune deficiency failed to form a protective humoral immune response to adjuvant IIV4 although CD-subpopulations and expression of toll-like receptors 3, 8, 9 were similar to healthy controls that may indirectly indicate the possibility of the formation of cellular immunity in response to vaccination in these patients.

Conclusions. The use of adjuvant IIV4 allows to form protection against 2 circulating influenza B lineages without reduction of the immunogenicity in relation to influenza strains type A. To evaluate the effectiveness of the influenza vaccine in patients with PID it is necessary to study other mechanisms of the development of a postvaccinal immune response.

Key words: tetravalent inactivated influenza adjuvant vaccine, CVID, vaccination

340. TRAVEL MEDICINE, TRAVEL-RELATED DISEASES AND REQUIRED VACCINES

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Introduction. Tourism is an important socioeconomic phenomenon in continuous development. Every traveler is exposed to nearly all infectious risks which may occur during his travel time. Some of the main risk factors can be temperature, water quality, high humidity and the exposure to multi-resistant microorganisms. However, studies suggest that very few people seek health advice prior to travel.

Aim of the study. This study was conducted to determine the level of knowledge, attitudes and practices of medical students in the field of travel medicine.

Materials and methods. A cross-sectional study was conducted between October and November 2019, using a self-administered questionnaire. The 345 students who took part in this study were enrolled in 5th or 6th year of general medicine program, in different medical centers from Romania and they have traveled abroad at least once in their lifetime. The data were analyzed using the statistical program SPSS (Statistical Package for Social Sciences). We used the Chi square test to identify differences in knowledge, attitudes and practices between students. Differences with a value of $p \leq 0.05$ were considered statistically significant.

Results. 96.2% seek information related to the travel destination, but the health field occupies only 6.2% of the respondents' interest. 55.7% do not seek information on infectious diseases related to the visited-region, the main reason being the conviction that they are not at risk of contracting a disease during the trip. 44.3% sought such information, the main source being the internet. 64.7% believe that vaccines provide basic protection, 29.1% that they are safe, 4.9% consider they are not needed, and 1.2% believe they have adverse effects. Both vaccinated and unvaccinated respondents feel they should be more informed about the health risks associated with their travel destination.

Conclusions. This study has shown an inadequate level of medical students knowledge and poor utilization of travel medicine services. Those who have received advice on minimizing health risks during travel, including the risk for infectious diseases, and the opportunity for relevant vaccination and chemoprophylaxis, tend to practice more frequently preventive measures prior to an international travel. This study recommends the development of a well-structured travel medicine service with the needed educational promotional strategy.

Key words: travel, students, infectious diseases, prophylaxis

341. THE MEDICAL-SOCIAL IMPACT OF PREMATURE BIRTHS

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Introduction. Premature birth is a major problem of contemporary obstetrics, but also of public health, whose incidence is increasing in the developed countries. Pregnancy duration, fetal body weight, physical and neurological condition are directly correlated with mortality rate and comorbidities of premature babies.

Aim of the study. Evaluation of the incidence, risk and medico-social impact of premature births in dependence on body mass and gestational age.

Materials and methods. As study material of premature births served statistics of years 2016-2019, the risk factors and causes of morbidity and mortality in newborns. Were questioned 52 children over one year old, born prematurely.

Results. Several risk factors were detected, the most important being prematurity. The medico-social impact of preterm births is highlighted in the perinatal period by the high mortality of the newborns. With advancing age, the negative impact is diminished. After the age of one year, the risks of preterm babies do not have a statistically significant difference with those born at term.

Conclusions. Premature births have multifactorial etiology. The medico-social impact of premature births is enhanced by morbidity and mortality in the perinatal period.

Key words: Premature birth, Risk factors, Death rate, Morbidity

342. DEMOGRAPHIC AGING IN THE REPUBLIC OF MOLDOVA: CAUSES, LEVEL AND CONSEQUENCES

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Introduction. The demographic aging of the population is a shift in the distribution of a country's population towards older ages due to the demographic changes such as fertility, mortality and migration. According to data, in 2018, in the Republic of Moldova the number of people aged 60 years and over was 17.7%, and according to UN by 2050 it will rise up to 32.5%.

Aim of the study. To analyze the causes, trends and consequences of the demographic aging process in the Republic of Moldova based on the official statistical data referring to the usual resident population disseminated by the National Bureau of Statistics.

Materials and methods. We analyzed such indicators as the proportion of the population aged 60 years and older, life expectancy at birth, natural population growth rate, standardized birth and death rates, net migration and demographic dependency ratio.

Results. The aging process affects mostly female population from rural area. The average life expectancy at birth based on the estimates of the usual resident population, for both sexes, is 70.6 years in 2018, while the sex gap is 8.8 years. The recent trends in mortality indicate a moderate increase in life expectancy, especially in women. The reduction in mortality from cardiovascular diseases in the elderly population is the main contributor to this improvement. The natural population growth (-1,218 persons in 2018) is negative since 1999 and will only intensify in the future due to the entry into the childbearing age of less numerous generations born in the 1990s. Very high net migration (-49,408 persons in 2017) intensifies the population ageing process and is its leading cause. The demographic dependency ratio in the country (ratio of children 0-14 and older population aged 60 and over to the adult population 15-59) is 63%, which indicates a relatively low social burden for the society. Total fertility rate recalculated by the National Bureau of Statistics based on the usual resident population is 1,82 children per one woman, which is among the highest values in Europe.

Conclusions. The Republic of Moldova is considered one of the countries with a moderate level of demographic aging process. The high migration outflow of the population, especially from rural areas, is the leading cause, while a continuous decline in fertility intensifies the process. The problem of aging is now evaluated from a socio-economic standpoint rather than the demographic one, and taking into account trends and consequences is the most important task of the social policy in the republic.

Key words: demographic aging, Republic of Moldova, migration

343. MEDICAL AND SOCIAL ASPECTS OF OSTEOPOROSIS IN THE POPULATION OF THE REPUBLIC OF MOLDOVA

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Introduction. Osteoporosis is defined as a systemic skeletal disease characterised by low bone density and microarchitectural deterioration of bony tissue. The osteoporosis is considered a medico-social disorder because the resulting osteoporotic fractures pose a major health problem and the mortality rate in an elderly person with hip fracture approaches 20 %. It is estimated that the financial and health related cost of osteoporosis will rise in future generations.

Aim of the study. To study the medico-social impact of osteoporosis to the population from the Republic of Moldova.

Materials and methods. This is a descriptive science paper. Data from the National Bureau of Statistics of the Republic Moldova, the national and international scientific articles were used as a study material.

Results. The result of the study indicate an increase in the number of osteoporotic fractures. The estimated number of fragility fractures for 2015 was 11271 and is predicted to increase to 15863 in 2050. The incidence of hip fracture in population above 50 years in Republic of Moldova is 292/100000 in women and 239/100000 in men. The study also indentifies the risk factors, the social and economic burden of osteoporosis.

Conclusions. Osteoporosis is considered a medical and social problem of the Republic of Moldova, which affects the elderly person especially women in the postmenopausal period. The risk factors for osteoporosis are low body mass index, age ≥ 65 years, vitamin D deficiency, smoking, low calcium intake, etc. The most serious complications are osteoporotic fractures.

Key words: osteoporosis, osteoporotic fracture, economic burden, menopause

344. CAUSES OF NON-DOCUMENTED REQUESTS IN PRE-HOSPITAL EMERGENCY MEDICAL ASSISTANCE

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Introduction. The emergency line can be used at any time to intervene in a critical situation of a patient, when only one second can make the difference between life and death. In the Republic of Moldova, since the launch of project 112, it has been called more than 4 million times, but, according to statistics, the number of calls from the daily average of 12.000 calls to 112, does not have an emergency character and constitutes over 68% of the total calls. . The average processing time of an emergency call is up to 40 seconds. The unjustified call to the emergency number means maintaining both the emergency lines and the operators 112. Therefore, the quality of the pre-hospital services in the Republic of Moldova is directly influenced by the ungoverned calls. The national and international studies in this area reveal many aspects regarding the causes of the non-documented calls. The vast majority of studies offer technical and management solutions regarding the limitation of these types of calls, by including a diversified management of sorting the ungoverned calls by the urgent calls. However, the theme requires complex studies, which offer solutions to the emergency care service. Quality control of the taking of population calls and the provision of emergency medical care is essential in ensuring a favourable climate for solving urgent cases and for ensuring the efficiency of the emergency treatment of the population.

Aim of the study. The analysis of the specific criteria for taking requests in pre-hospital emergency medical care, developed to analyze the frequency of non-documented calls of the population for emergency medical care.

Materials and methods. A descriptive, cross-sectional study was conducted on 230 adult respondents, residents of Chisinau. For the accumulation of primary data, a special questionnaire was developed. From all the respondents was received agreement to participate in the study. The EpiInfo statistical program was used for data analysis.

Results. The number of calls from Chisinau in 2019 compared to 2018 increased by 7.5%, and the number of non-documented calls - by 10.6%. The major cause of non-documented requests: in 63.0% (95% II: 55.14% -70.86%) - lack of information regarding the need to call pre-hospital emergency care. The respondents are aware 82.0% (95% II: 76.52% - 87.42%) of the negative impact of the non-documented requests and they have pronounced for a greater involvement of the 112 service in publicizing the negative impact that the requests have not documented for both service and population.

Conclusions. The study showed the need to educate the population on the causes of requesting pre-hospital emergency medical care. Mediation of the negative impact of the non-documented requests for service 112 and of the patients who need to urgently solve the health problem.

Key words: ambulance; non-documented requests; causes.

345. REFORMS AND PROBLEMS OF THE PUBLIC HEALTH SURVEILLANCE SERVICE IN THE REPUBLIC OF MOLDOVA

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Introduction. Since 1992, the public health surveillance service in the Republic of Moldova has undergone a series of reforms. Thus, he evolved from inspection to surveillance, from a narrow approach to a complex approach, the focus shifted from treatment to prevention and health promotion, and emergency preparedness and response took over the place of eruption investigation. However, the opinions of the employees of this sphere regarding to the efficiency of the reforms remain contradictory.

Aim of the study. To study and analyze the latest reforms of the public health surveillance service in the Republic of Moldova, in order to identify the problems and directions of development.

Materials and methods. The study was descriptive. Applied research methods: bibliographic, historical, statistical and sociological. The sample: 60 employees from the public health surveillance service. Data collection tools: specialized literature, official statistics, own questionnaire, interview. Data processing carried out with the Epi Info program. Calculated indicators: ratios, proportions, indicators of the central tendency, indicators of the variation, tests of statistical significance and others.

Results. The reform of the public health surveillance service resulted in the reduction of the number of institutions of the service by 26, and of the number of employees by over 60%. As a result, the acute shortage of medical personnel is attested, which now is 31.2% per country, in some territories from 35% to 48%. Also, there is a reduced share of medical specialists aged

up to 35 years - 16.2% and a high proportion of medical specialists of retirement age - 35.9%, in some territories reaching 80% -100%, which has a negative impact on the activity of the institutions. Most of the employees surveyed, 72% consider the reform as inefficient, and they believe that the motivation did not increase, although the salaries of the employees increased threefold, but the level of stress increased, because of changes and overwork.

Conclusions. Most of the employees consider that the reform of the service was not effective and generated the appearance of some problems at the service level. Some of them are the insufficiency of financing, the reduction of the number of employees, the shortage of specialists especially young and well trained, the reduction of motivation and the increasing level of stress.

Key words: public health; reforms; surveillance; problems in the public health service.

346. THE PARTICULARITIES OF LIFE QUALITY OF PATIENTS WITH ONCOLOGICAL DISEASES

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Introduction. The quality of life is the perception of individuals about their goals, expectations, interests and ideas, satisfaction and happiness among their cultural values. Quality of life is the physical effect of patients (movement, physical activities and the ability to succeed in work and family responsibilities), social (social activities, being beneficial, body image, anxiety and depression) and psychological (life satisfaction, social support need and role function) for well-being.

Aim of the study. Analyzing the medico-social and psycho-emotional particularities of patients with oncological pathologies through the standardized questionnaire with the elaboration of suggestions on the research topic.

Materials and methods. The cross-selective study (2019-2020) was conducted within the Oncological Institutethrough the WHO standardized *questionnaire SF-36&author annexes*. The sample included 70 adults of average age 51.67 ± 1.92 ($SD = 10.49$); men - 53.3% and women - 46.7%; depending on the urban / rural locality, the sample was selected 50% to 50% cases; the agreement not to disclose personal data was signed.

Results. Cancer patients experience some psychological problems - stress, anxiety, depression; some physiological side effects - hair loss, pain, fatigue, nausea, vomiting; some social side effects - social isolation, role and loss of function; and, finally, a deteriorating quality of life. In the study case the use of SF-36 structured these answers: 1) *Physical function* – 50% (95% CI: 43.70 to 56.29); 2) *Role limitations due to physical health*- 23.33% (95% CI: 19.59 to 27.06); 3) *Pain*- 56.33% (95% CI: 51.41 to 61.25); 4) *General health* - 48.13% (95% CI: 44.81 to 51.45); 5) *Role limitations due to emotional problems*- 37.78% (95% CI: 25.24 to 50.32); 6) *Energy/fatigue* - 59.37% (95% CI: 54.19 to 64.55); 7) *Emotional well-being*- 66.44% (95% CI: 61.71 to 71.17); 8) *Social functioning*- 61.67% (95% CI: 56.18 to 67.16). At the same time, according to sex, sleep quality was distributed: 1) very good: men - 12.5% and women respectively - 7.1%; 2) good: men - 56.2% and women - 42.9%; 3) bad: men - 31.2% and women respectively – 50.0%, the one confirms differences according to sex.

Conclusions. Many factors have positive and negative effects on the quality of life. Fatigue, anxiety, worrying for the future and family, difficulties in meeting basic requirements and

changes in the body image which aggravate the quality of life. Social support, economic security and confidence in recovery improve the quality of life. However, the research results alarm our major psycho-emotional and socio-medical particularities problems.

Key words: quality of life; physical function; physical role; pain; general health.

347. THE TUBERCULOSIS AS A MEDICAL AND SOCIAL PROBLEM IN THE REPUBLIC OF MOLDOVA

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Introduction. The tuberculosis keeps being a worldwide major problem of public health. Since 1993, it has been declared an emergency of public health by the World Health Organization. The Republic of Moldova is found among the 18 countries in the world facing a high burden caused by tuberculosis.

Aim of the study. The evaluation of the medical and social aspects of tuberculosis as a public health problem and developing recommendations for reducing morbidity.

Materials and methods. The type of study is descriptive, integral and selective. Applied research methods: historical, comparative, descriptive, statistical, and sociological. Study group: 98 patients with tuberculosis. Data collection methods: bibliographic data, official statistics, personal questionnaires. Data processing is carried out with the Epi Info program. Calculated indicators: relative, central tendency, variability and veracity, significance tests.

Results. The prevalence by tuberculosis in the Republic of Moldova in 2018 was 104.8 per 100,000 people, with a decrease compared to 2017 - 117.9 per 100,000 people. The results of the questionnaires indicate that most of the patients constitute men 79.59%, with a statistical difference between the sexes ($p < 0.0001$). The average age of the affected people is 42.27 ± 8.26 years. More than half of the patients come from rural areas 55.1%, 57.14% live alone, they are single, divorced or widowed and only 38.78% are married. The average of the monthly family income is 2853 lei, equivalent to 145 euro, which is a very low income. According to the type of activity most affected are workers 36.61% and 26.53% are unemployed, 55.1% of employees mentioned that they face difficulties at work due to the diagnosis.

Conclusions. Although the tuberculosis can be prevented, treated and stopped, it remains a problem of public health at national and global level. While there is a decrease in the incidence of this disease, the prevalence remains high. According to the results of the research, the most vulnerable group is represented by the men from the rural area, without education and with low incomes.

Key words: tuberculosis; problem of public health; prevalence; social aspects, medical aspects.

348. PECULIARITIES OF MEDICAL STUDENTS' KNOWLEDGE AND ATTITUDES REGARDING THE ANTIMICROBIAL RESISTANCE PHENOMENON

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Introduction. Antimicrobial resistance (AMR) is one of Public Health issues today. Resistant microorganisms are responsible for serious infections, which increase health expenditure and can lead to disability or death. Inappropriate use of antibiotics is one of the main causes of AMR development. Currently, as a result of infections caused by antimicrobial resistant microorganisms 33.000 people die in Europe every year and 700.000 people die annually worldwide.

Aim of the study. Studying the peculiarities of medical students' knowledge and attitudes regarding the antimicrobial resistance phenomenon and antibiotic consumption.

Materials and methods. A cross-sectional study was conducted. Epidemiological and statistical methods of study were used when conducting the study. A questionnaire on recent antibiotic consumption and attitudes regarding antimicrobial use was developed. To carry out the study, 164 national and international 2nd year students from *Nicolae Testemitanu* SUMPh were interviewed.

Results. The medical students who participated in the study were from the Republic of Moldova - 90 (54.9%) and Israel - 74 (45.1%). When asked if they ever used antibiotics, the students answered in the following way: yes - 138 (84.14%), no - 24 (14.64%), don't know - 2 (1.22%). 62 students (37,8%) have not used antibiotics during the last 12 months, 56 (34.15%) students have consumed antibiotics once, 42 (25.6%) students have consumed antibiotics 2-5 times and 4 (2.44%) students are not sure. When asked if antibiotic use for animals can reduce the possibility of effective antibiotic treatment for humans, students answered as following: yes - 80 (48.78%), no - 40 (24.39%), don't know - 44 (26.82%). 70 (42.68%) students think that AMR can spread from animal to human, 40 (24,39%) students consider that AMR does not spread from animals to human and 54 (32.93%) students don't know. 50 (30.49%) students think that AMR can spread from human to human, 54 (32.93%) students consider that AMR does not spread from person to person and 60 (35.59%) students don't know. The answers to question *Nowadays, AMR is a big problem worldwide* were the following: *Agree* - 90 (54.88%), *Partially agree* - 20 (12.2%), *Don't agree* - 30 (18.29%), *Don't know* - 24 (14.63%).

Conclusions: 1) AMR is an important issue worldwide. Resistant microorganisms are often responsible for serious infections, as well as healthcare-associated infections. 2) Maintaining the effectiveness of antibiotics is the responsibility of everyone Rational use of antibiotics can prevent the development of resistant microorganisms and can preserve antibiotics' effectiveness for future. 3) This study has shown that medical students have certain knowledge and attitudes regarding antibiotic use, but also further information and awareness about the rational consumption of antibiotics is still needed.

Key words: antimicrobial resistance; medical students; knowledge and attitudes.

349. MEDICO-SOCIAL PARTICULARITIES OF CHILDREN WITH ONCOLOGICAL PATHOLOGIES BY THE PRISM OF THE QUALITY OF LIFE

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Introduction. The quality of life of children with haematological-oncological diseases which refers to: the emotional, social, physical well-being and the ability to function normally - suffers, because the long-term treatment and its adverse effects have a major impact on all spheres of activity of the cell of society. Studies in the quality of life of children and their families are very important because of the strategic particularities in the elaboration of the therapeutic behavior and the psychological / emotional particularities.

Aim of the study. Studying aspects of the quality of children life with haematological/oncological pathologies grouped by age, socio-economic level and rural-urban living environment.

Materials and methods. The analytical selective study accomplished (February 2020) via the sections of pediatric oncology and hematology of the Oncological Institute through the WHO *standardized questionnaire–PedsQL*. The sample included 45 children aged 5-18 years and parents. Information agreements were signed regarding the confidentiality of data, without disclosure of personal data.

Results. The standardized tool allows the highlighting of the following items in the research groups: *pain and hurt*– 71.71% (95%CI: 58.25–85.17); *nausea*– 71.58% (95% CI: 55.38-87.78); *procedural anxiety*– 66.67% (95%CI: 48.20-85.14); *treatment anxiety*– 81.14% (95% CI: 67.29-94.99); *worry* -59.65% (95%CI: 41.19-78.11);*cognitive problems*- 66.84% (95% CI: 51.26-82.42);*perceived physical appearance*– 53.51% (95% CI: 34.61-72.41); *communication*– 69.3% (95%CI: 51.4-87.2). It has been shown according to the living environment that 87% of patients are from rural areas and 13% from urban areas.

Conclusions. The results of the questionnaires indicate a low level of quality of life of the children with oncological diseases and their families. The studies carried out highlighted a number of factors that could influence the quality of life: Family, Health, Friends, School and activity, Social life, Safety, Emotional well-being. A large number of patients have treatment anxiety, changes in appetite, disturbances in their relationships with others, changes in body image, as well as changes in the cognitive sphere. Thus, during the treatment as well as after it is necessary the psychological and spiritual counseling of all family members.

Key words: quality of life; oncological diseases; treatment anxiety; perceived physical appearance.

ETHICS AND DEONTOLOGY SECTION

350. COLORECTAL PATHOLOGIES, EPIDEMIOLOGY AND BIOETHICAL VISION

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Scientific adviser: Victoria Federiuc, University assistant, Department of Philosophy and Bioethics, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Introduction. Colorectal pathologies are increasingly common, especially colon and rectal cancer. I chose to study this topic because we have a slow but steady growth of oncological diseases in most countries of the world. People do not know the causes and symptoms of these diseases and the problem area being an intimate one, consequently the appeal to the specialist is often neglected.

Aim of the study. Study of the basic epidemiological indicators of colorectal cancer in the Republic of Moldova. Elucidation of early and late detection of colorectal cancer.

Materials and methods. Materials for the present study have served the data of the Cancer Registry of the Oncology Institute of the Republic of Moldova for the period of 2008-2018. Based on these data, the basic epidemiological indicators of colorectal cancer in the Republic of Moldova were studied and evaluated. The statistical analysis method has calculated the prognosis of the incidence of colonic and rectal cancer for the years 2015 – 2018.

Results. Morbidity due to colorectal cancer is slowly rising, but continues to increase in recent years, in 2008 - 15.5% 000 compared to 2018 - 28.8% 000. The number of new cases of colorectal cancer detected annually in the same time period has almost doubled, from 556 to 1029 in 2018. This fact allowed colorectal cancer to be located in 2010, with morbidity of 12.6% of all neoplasms, at the forefront of the pathology structure in oncology.

Conclusions. Overall survival over 5 years constitutes 46.4% in colon cancer and 43.6% in rectal cancer. This unsatisfactory result is conditioned by the low rate of early detection of this disease as well as the late addressing of patients.

Key words: colorectal cancer, epidemiology, ethics

351. ABORTION: BETWEEN MORAL DECISION AND CLINICAL PRACTICE

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Introduction. In the present, abortion is a polarizing and divisive issue that raises discussions about ethical and medical problem. Actually, the abortion ethics became more emphasized with the appearance of the question “When does a human life begin?” Despite of different medical achievements and the evolving of ethics, abortion remains a multilateral topic.

Aim of the study. The analysis of abortion from a bioethical perspective for facilitating the multilateral approach of the life`s beginning and interruption.

Materials and methods. WHO's guideline about safe abortion, legislative acts of the Republic of Moldova about women's health protection, statistical year-books, different sources from bioethical, social and ethical areas, own sociological analyzes based on different observations.

Results. Over time, the subject of abortion has evaluated in parallel with morality and social traditions strongly connected with different culture forms. Also have appeared various specialized structures in public health system, which deal with the elaboration of the new, more efficient methods of abortion. Thereby now, we have a medical comfort of abortion, feticide being a common practice that is considered a banal, accessible medical procedure. In parallel, the ethical approach of this problem does not have a clear answer, so the discussions on the abortion topic continues in condition of the new technological society.

Conclusions. 1. The women's right to abortion results from their bodily autonomy, considered to be a fundamental human right, but the abortion cannot be a norm in our society, it continues to be an unsolved, difficult ethical problem; 2. Bioethics is looking for optimal ways of avoiding the moral conflicts and gives different logical recommendations that correspond with its principles; so bioethics carries out its main function of protecting the human's life, in any form of its manifestation; 3. In the present day, it becomes necessary to have an interdisciplinary approach of the abortion problem, with the aid of bioethics.

Key words: bioethics, abortion, life protection, moral decision, the right to decide.

352. THE ETHICAL DILEMMA OF BLOOD TRANSFUSIONS IN CASE OF RELIGIOUS BELIEFS

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Introduction. A healthcare system is predisposed to ethical questions and dilemmas, if they are not solved in a right way, they can endanger professional action, the quality of medical assistance or user's decision. Thus, the doctors experiment a difficult situation to solve, because they have to choose between respecting patient's autonomy or the legal devices that control the practice.

Aim of the study. To elucidate the necessity of approaching the problem of blood transfusion in the case of religious believers (Jehovah's Witnesses) from the bioethics perspective, to overcome the difficulty of the medical team's action in emergencies.

Materials and methods. Legislative acts of the Republic of Moldova about blood transfusion; the medical professional deontological code; the medical, medical bioethics and social bioethics sources. The methods applied: bioethical, sociological, analytical and descriptive methods.

Results. Nowadays, in our country there are about 20.000 of Jehovah's Witnesses. The ethical dilemma appears in the emergency situations when the patient's life is in danger and there are not other procedures to intervene than the blood transfusion or there is no time to try a legal intervention towards Jehovah's Witnesses or to accept any refusal. According to law, making decision using bioethics principles from the deontological code of medical assistance is legitimate, so the intervention is not criminal if the blood transfusion is necessary. A difficult situation is created in the case of the vulnerable contingent of patients, especially teenagers.

Conclusions. 1) The legal regulations do not attribute the absolute value to religious liberty from this point of view; 2) If a life threat is imminent the medical intervention is not a crime even without patient's or his legal representative's consent; 3) It remains an ethical dilemma in approaching the legal perception of religious beliefs.

Keywords: bioethics, religious confession, blood transfusion, freedom of choose.

353. CONFIGURING THE ESSENTIAL TOPICS OF VULNERABILITY IN CHILDREN WITH TYPE 1 DIABETES

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Introduction. Children with type 1 diabetes represent a specific vulnerable contingent. Minors themselves are part of the vulnerable population at its core. The level of vulnerability increases with the addition of chronic conditions with a major degrading effect on the body. This situation is a subject of ethical approach that can contribute to the reasonable maintenance of the quality of life of children with type 1 diabetes.

Aim of the study. Highlighting the basic aspects of vulnerability of the youth contingent with type 1 diabetes for ethical approach.

Materials and methods. A contingent of 38 children of both sexes with type 1 diabetes, aged 7-15, and undergoing rehabilitation in the "Sergheevka" Sanatorium in Odessa region, Ukraine, was studied from July to August 2019. During the year 2019 also five minors were observed, within the University Clinic of the *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova. Literature from the field of ethics, bioethics, and medical management was used. The methods applied: phenomenological, bioethical, sociological, structuralist methods.

Results. The manifestation of vulnerability in children with type 1 diabetes highlights a number of medical, managerial and behavioral problems. In the quota of children with type 1 diabetes, there is an increased degree of vulnerability, which negatively influences the quality of their life. Among the factors that influence this state of affairs are: 1) deficiencies of practical skills in children to manifest a drug behavior and a proper diet; 2) informational deficiencies about the disease they have and the right way of life to be followed; 3) psychological problems - a large part (43%) periodically manifests moderate depressive states, and about 20% are indifferent to the pathology and their consequences in the future. Of major importance is the proper maintenance of the doctor-patient relations, the trust in the doctor, the observance of the common actions meant to ensure the adequate therapeutic integrity. Medical success, increasing and maintaining optimal quality of life of children with type 1 diabetes, depends largely on the application of bioethical principles.

Conclusions. 1. In the quota of children with type 1 diabetes, there is a marked interdependence between the state of vulnerability and the quality of life. 2. Effective actions are needed to reduce the vulnerability and improve the quality of life. 3. The application of bioethical principles is an effective criterion for therapeutic optimization and vulnerability reduction.

Key words: vulnerability, bioethics, quality of life, type 1 diabetes, children.

354. DOPING OF YOUNG ATHLETES: BIOETHICO-MEDICAL ASPECTS

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Scientific adviser: Victoria Federiuc, University assistant, Department of Philosophy and Bioethics, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Introduction. Nowadays cruel conditions of survival in modern sports force athletes to work nearly behind the limits of organism's physiological potentials. Necessary condition of sportsmen's successful functioning at present shall be nearly constant very high level their fitness and results. High price of a victory in modern sport results in a number of negative outcomes, among which doping or taking prohibited in sports preparations or methods is especially troubling. In modern sports lethal cases, resulted from athlete's using prohibited substances, are often. Thus, one of the heaviest problems of modern Olympic sports is fight with doping.

Aim of the study. This review was undertaken to analyze the problem of doping in sports from the bioethical perspective.

Materials and methods. This research is based on analysis of scientific and methodic literature in the field of ethics, medicine, biology, psychology and social sciences related to the sports doping.

Results. Pharmacological world market is so large that it is rather difficult to select maximally effective and necessary for an optimal physical status of an athlete. It should be noted that use of some preparations as well as physical methods and manipulations, prohibited in sports first of all from medical point of view, often is not grounded and uncontrolled. These causes substantial danger for health, resulting in disablement and even death. In this connection, during several decades, international sports and medical organizations have been conducting active struggle with doping. Authors of various studies note that taking of a number of preparations results in changing of sportsmen's behavior (especially increasing aggressiveness) and it can lead to socially dangerous situations. In youth sports, penetration of doping preparations causes anxiety. Negative effects of prohibited preparations taking by junior sportsmen is even more dangerous than in adults. Beginner athlete, through doping, actually deprives himself of further strategic perspectives in sports, because usual training methods after taking doping will not give proper results. Also, such facts extremely strongly influence on image of sports in public opinion.

Conclusions. Among problems of modern sports, problem of doping is significantly complex, as far as it includes interconnected medical, jurisdictional, political, moral, organizational, social and pedagogical aspects, thus falling into the bioethical field of study. Medical aspects are conditioned by the fact that using of doping by sportsmen results in negative and in a number of lethal cases. From moral aspect, using of doping preparations contradicts to essence of sport, creates unequal conditions for achieving of sport result, is harmful for image of country and team, for international sports in general.

Key words: doping, sport, health, fitness

355. THE CONCEPT OF BENEVOLENT INJUSTICE IN THE NEWBORN CARE

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Introduction. Neonatal medicine aims to reduce the mortality of infants. In the neonatal intensive care unit (NICU), babies receive high-quality healthcare that in many cases saves lives. Even compared with only a decade ago, fewer and fewer infants are dying. There is a little-recognized cohort of NICU patients whose outcomes are the result of a “benevolent injustice” in their healthcare course. Many of these infants are saved by technology; however, they are left both medically fragile and medically dependent and many of them are required to live in a medical facility. Many of these babies never get to go home with their parents. This emerging cohort of patients may evolve from the difficult ability to prognosticate outcomes for neonates, overtreatment, and acquiescing to parental demands for continued aggressive care.

Aim of the study. Examination of the concept of benevolent injustice in the context of NICU patients.

Materials and methods. Review of the scientific literature and integration of available qualitative empirical data.

Results. There are 3 recurrent themes that emerge in the literature as to how this cohort of NICU patients evolves: poor prognostication, overtreatment, and acquiescing to parental demands for continued aggressive care. Neonatologists and parents are attempting to benevolently make decisions in neonates’ best interests, which, unfortunately, can be quite difficult when predicting the potential outcomes. Whether by poor prognostication or by over treating neonates to acquiesce to parental demands, these actions carry with them the potential consequence of violating the neonate’s rights to a range of opportunities. Neonates should have the right or opportunity to interact and to be in relationship with their parents, and these are opportunities that should be protected rather than violated by health-care. If their conditions are life-limiting or death is near, they should be allowed to die with dignity in a loving and symptom-free manner. Many neonates are left neurologically impaired and developmentally delayed where it may never be possible to interact in a meaningful way.

Conclusions. The reality of the NICU is that the same technology that is used to save a neonate’s life may also be the cause of severe comorbidities and life-altering, adverse side effects.

Key words: benevolent, injustice, neonates, prognostication.

356. BIOETHICAL ASPECTS OF CHILDREN'S VACCINATION IN MOLDOVA

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Introduction. Vaccination is a current topic of bioethical approach. Despite some notable successes achieved by mass immunization, vaccination remains an intensely discussed topic, for various reasons, predominantly in the media.

Aim of the study. To identify the essential moments of the vaccination process of children in Moldova and to highlight the importance of the doctor-parent relationship.

Materials and methods. There were used scientific reference publications, clinical protocols, various mass-media reports on vaccination, as well as other sources available on internet. There were studied results of a questionnaire applied on a lot of 40 respondents (parents) from rural and urban areas with the age between 21-45 years.

Results. The research conducted on 40 parents (mothers and fathers) illustrates the following positions regarding vaccination: 30% complain about weak information correlations in the doctor-patient-parent relationships; 70% recognize the application of vaccination of children in the context of their vulnerability; 85% identify certain fears of somatic integrity regarding the effect of applying organized immunization; and more than 55% have no fear accepting collective integration with an unvaccinated child. The main characteristic trait attributed to the child is the vulnerability, children being the first ones included in the risk group. The principle of vulnerability highlights the fragility and harmlessness of the growing organism in the event of a possible virotic or microbial infection. It emphasizes the problem of violation of fundamental rights and freedoms of both the child and adults: vaccination becomes mandatory in its form, being imposed as a requirement to admit the child in different institutions (like schools and kindergartens).

Conclusions. (1) Vaccination is a particular subject of current medical-bioethical analysis. (2) The basic issues of the bioethical analysis of the vaccination refer to therapeutic integrity, the vulnerability of the children, the doctor-parent relations, freedom, and the responsibility. (3) The intransigence towards vaccination is mainly due to the deficiencies of medical management. (4) The bioethical approach of the vaccination problems contains an important potential to optimize the immunization process through immunization.

Key words: bioethics, immunization, vulnerability, integrity, doctor-parent relationship.

357. SPECIFIC OF THE INFORMED CONSENT IN THE REPUBLIC OF MOLDOVA

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Introduction. The informed consent represents an essential act in the accomplishment of the medical practice by which the patient participates in the medication. The bioethical, legal and medical doctrine regarding the informed consent reveals some key requirements regarding its content, but there are also some particularities that designate the cultural and professional nuances of ethical, legal and, last but not least, practical aspects that should be known both by physicians and patients for their correct application.

Aim of the study. The research aims to elucidate some particularities of the informed consent in the national environment, based on the bioethical, legal and medical aspects.

Materials and methods. At the completion of the study it was necessary to study materials from various books, journal articles and publications in volumes on bioethics, medicine and law, and statistical data obtained from official sources. The paper was structured and

rendered by the analysis method, the comparative method, the statistical and hermeneutical method.

Results. The ethical ground of the informed consent is achieved by respecting the dignity of the patient as a human being, presenting the patient's right to conscious self-determination and ensuring his safety in the doctor-patient relationship crystallized in the diagnosis and treatment phase. Procedurally, the informed consent comprises three essential components: informing the patient; patient awareness of the information received; assuming and expressing free and benevolent consent to medical tactics. Some sociological data reflect a positive attitude (72.6%) towards the regulation and the way of implementing in the medical practice the informed consent, which represents an opportunity to consolidate the patients' rights at the national level. At the same time, there are blank areas that need improvement (56.4%). It is important for the medical workers to raise awareness and make every effort to achieve this social goal.

Conclusions. Some positions that reflect the specificity of the informed consent in the Moldovan environment area are fixed on the idea that: 1. The informed consent balances the moral and legal protection of the health care provider (physician, hospital, medical center, etc.) and the patient's rights; 2. Some practical medical aspects that frequently induce informed consent are required to be optimized; 3. The importance of informed consent is emphasized in potential cases of malpractice.

Key words: informed consent, bioethics, Republic of Moldova, patients' rights, malpractice.

358. THE PRINCIPLE OF AUTONOMY AND ITS PARTICULARITIES IN THE LOCAL COMMUNITY

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Introduction. Bioethical literature describes the patient's autonomy as his capacity and authority to decide freely in accordance with a self-chosen plan while realizing the impact of its own actions and without being influenced in his decisions. These traits of autonomy become premises for analysis and debate for many contexts in medical community. Also, this subject includes current interpretations, as a great number of patients still tolerate paternalistic approaches, either out of indifference or health culture.

Aim of the study. The purpose of the study consist in highlight from a theoretical point of view some bioethical particularities which express the context of implementation of the autonomy principle in the local community.

Materials and methods. For this study it was necessary to select materials from various books, articles and collections on bioethics, medicine and law, statistical data obtained from official sources. The work was structured and rendered by the method of analysis, comparative method, statistical and hermeneutic method.

Results. Recent statistical reports on the health system indicate that only 71% of patients undergoing surgery have confirmed that they have signed the informed consent form. At the same time, the majority of respondents confirmed that they were sufficiently informed about planned medical interventions and risks, the percentage of which was higher in republican hospitals (79.1%) than in district hospitals (70.4%). Similarly, 25.5% of respondents announced that they had been insufficiently informed or they had not been informed at all.

These data confirm a lack of communication between healthcare professionals and patients. More than 1/4 of patients neglect the right to the principle of autonomy by not signing the informed consent form. These data reflect certain differences between what we call a bioethics requirement and the legal framework in the realization of the medical profession and the social realities. Lack of informed consent also suggests certain deficiencies about the patient's health culture. It can also be observed that the absence of the patient's autonomy is also determined by the patient's position towards his life and health.

Conclusions. Some criteria that could promote the principle of autonomy consist in: 1) the development of health education within children's and youth communities; 2) the extension of health education in urban and rural communities; 3) supporting campaigns to promote health rights.

Key words: bioethics, autonomy principle, awareness.

359. MEDICAL AND BIOETHICAL DILEMMA IN CASE OF MEDICAL ERROR

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Introduction. In Republic of Moldova, the medical error is encountered more often than we think. This isn't known because every day, people are forced to keep silent about some irregularities, and this may affect both, the patient and the medical staff. Annually, the number of cases of medical errors that had been reported is unrealistically low. Even the law does not come to the aid of people affected by malpractice, error or mistake, as all these terms are covered by the term of medical error.

Aim of the study. Detecting the actual prevalence of medical errors and the level of protection available to patients.

Materials and methods. This descriptive-analytical study was conducted on 20 medical workers. Data was collected using a valid and reliable questionnaire, consisting of two parts: demographic information and questions about the level of protection perceived by medical workers and their role in solving medical errors that they witnessed.

Results. From the analysis of the questionnaires we found that 69% of the medical workers surveyed witnessed at least one case of medical error. As a result of this error, no action was taken in 71% of cases and 23% of cases ended in a harsh reprimand. This may be a consequence of the fact that in more than half of the cases, even patients or their relatives did not notice that a violation had occurred to them, and if they did, most of them overlooked it. Even in the context of the legislation, there was not much data, with 55% saying that the state is not taking sufficient measures to prevent or cases of medical errors.

Conclusions. 1. The number of medical errors exceeds expectations. 2. The population does not have sufficient medical education to detect some medical violations. 3. Preventing and combating the majority of medical violations is legally impossible. 4. Although medical workers would like to combat medical errors or mistakes, it is not only up to them, the change must occur at a social and political level.

Key words: medical error, bioethics, patient protection, moral dilemma.

360. BIOETHICAL ASPECTS UPON THE EMBRYO'S PROBLEM IN MEDICALLY ASSISTED REPRODUCTION (IN VITRO FERTILIZATION-IVF).

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Introduction. In the Republic of Moldova, about 15% of the couples suffer from infertility and IVF has been successfully practiced for 5 years: out of 3000 couples, 1200 children were born. Medical assisted human reproduction is an ensemble of techniques and clinical or biological methods that allow the procreation of the embryo outside the realm of the natural process (in absence of the sexual intercourse) alongside with the doctor's intervention. Although the embryo is only seen as "a product of conception in the first three months of existence" and its moral status is undetermined, is it ethically acceptable an in vitro procreation followed by an eventual destruction of embryos? Is the principle of "benevolence" challenged by the "primum non nocere" one?

Aim of the study. To reveal the embryo's „disproportional risk of death" and to prove that all the pre-embryos or embryos, regardless they are inside or outside the female's body are comparable to born human being and have the right of life.

Materials and methods. Published scientific materials (internet sources, monographs etc.) about the implementation of IVF methods in all countries of the world, legal cases/facts/ and written debates based on the status of in vitro fertilization and embryo's rights. Abstracts from the European Court of Human Rights: Consent to IVF treatment – Human Fertilization and Embryology Act 1990 upon the storage of the embryos, articles from The International Committee for Monitoring Assisted Reproductive Technology and Regulation of providing medically assisted human reproduction services authorized by the Minister of Health, Labor and Social Protection, Republic of Moldova, and Statistics by the Center of Reproductive Health and Medical Genetics of Moldova.

Results. Based on the research, there is a strong bioethical dispute about the embryo as individuality between the scientists. The problem subsists along with their fate post-procedure. So, if following the AMR path, we observe that in order to ensure the success rate is stimulated an over-ovulation leading to a considerable increase in the embryo's number. Doctors implant not only one, but several embryos in the womb. However not all of them resist, thus, the treatment results in a multifetal pregnancy, with 1 or 2 embryos being chosen and the rest of them removed. In this case, there are 3 alternatives: 1) embryo elimination, 2) their destruction for research purposes (because once thawed they lose their viability), 3) anabiosis ("suspended animation").

Conclusions. . (1) Ontogenesis, which implies an individual development uniquely encoded by the genome does not remove the preceding phases from the later one, but keep them in "eternal" memory. Moreover, the biological advance leads to the phenotypic manifestation of the characteristics with which it was initially equipped. (2) From the moment of fertilization, the embryo is an autonomous organism that possesses a biological essence which demonstrates its belonging to the human species and its assignment to human rights. (3) No final option protects the value of the embryo's life because, through this practical sacrifice, an abortion is performed, and from a religious point of view, a homicide.

Key words: medical legislation, ethics, in vitro fertilization, embryo, ontogenesis, human rights of life.

DENTAL MEDICINE SECTION

DEPARTMENT OF ORAL AND MAXILLO-FACIAL SURGERY *ARSENIE GUTAN*

361. EVALUATION OF RELATED FACTORS FOR PERMANENT TEETH EXTRACTION

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Introduction. Dental extraction is the process of removal of the teeth from the dental alveolus, which is situated, in the alveolar bone and it is performed for a several reasons such as: compromised teeth, symptomatic impacted wisdom teeth, teeth with caries cavity and periodontal diseases complications and teeth extracted for prosthetic or orthodontic treatment. This study aimed to determine the reasons for permanent teeth extraction and made in the University Dental Clinic nr.2, Chisinau, Moldova, in 2018.

Aim of the study. Revealing the primary reasons for dental extraction of permanent teeth among adults, their correlation with age, gender, oral health status.

Materials and methods.. 169 medical records and cases of patients who underwent tooth extraction in the University Dental Clinic in 2018 were studied, revealing that 102 of them were males, 67 females, aged between 18-72. The cases were divided in groups according to four main factors for dental extraction: compromised teeth, symptomatic impacted wisdom teeth, teeth with caries cavity and periodontal diseases complications and teeth extracted for prosthetic and orthodontic treatment.

Results. 60,36% of the examined medical records and cases were males and 39,64% females, distributed by age groups as follows: 18- 29 years old is 24, 56%, 30- 45 years old is 35, 44%, 46-65 years old is 32%, 66 years old and more is 8%. The prevalence of teeth extraction due to complications of caries cavity and periodontal diseases is the highest among other factors which is 45,67%.

Conclusions. Complication of dental caries cavity and periodontal diseases were the main reasons for tooth extraction, men aged between 30-45 years old is the most affected.

Key words: Dental extraction, Compromised teeth.

362. THE ROLE OF PLATELET- RICH FIBRIN TECHNOLOG IN ORAL WOUND HEALING

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Introduction: Unlike some of his counterparts in the animal kingdom, man does not have the possibility of accelerated healing and regeneration, and over the years, attempts have been made to find ways to avoid this restriction. The blood supply and growth factors are essential components in postoperative healing. Platelet-Rich Fibrin (PRF) is a relatively new concept of

natural tissue regeneration, which is widely applied in oral and maxillofacial surgery. Developed by Joseph Choukroun, in 2001, Nice, France, it was firstly used as an enhancer of tissue regeneration for patients with diabetic ulcer. Subsequently, it has spread in other areas and nowadays the PRF technique is a key-procedure in oral and plastic surgery, periodontal surgery, prosthetics, and other domains. Its' advantage consists in increased concentration of autogenous growth factors, which are spread during ≥ 7 days. It may be used alone or in combination with grafting materials, in order to facilitate wound healing and tissue maturation after different types of surgeries.

Aim of the study. The aim of this study is to analyze the effect of Platelet- Rich Fibrin (PRF) regarding specific clinical cases, in patients with different diagnosis.

Materials and methods.. This clinical study has been performed in a series of 20 patients with different clinical diagnosis: wound dehiscence (3 patients), oro-antral communication (5 patients), mandibular cystectomy augmentation (3 patients), free gingival graft from palate (2 patients), sinus lifting procedure (4 patients), postextractional socket preservation (3 patients). These patients were treated using standard treatment protocols and the Platelet- Rich Fibrin membranes as biological seals with and without grafting materials.

Results. The use of PRF membranes as a biological seal after soft tissue grafting had the role of isolating the wound from the oral cavity, reducing pain syndrome by limiting the direct exposure of the wound to traumatic factors. In the case of maintaining the post-extraction socket and cystectomy using PRF membranes, the level of the alveolar ridge was maintained, and the quality of the newly formed bone was good enough for the subsequent implant insertion. An increased regeneration effect was observed after the closure of oro-antral communications of different dimensions. Moreover, the application of PRF membranes appears to promote tissue healing in case of postoperative wound dehiscence.

Conclusions. By strictly adhering to the protocol, the PRF can be applied in various clinical situations, and the lack of long and short-term complications denotes the positive impact of the technology on the regeneration of oral wounds.

Key words: Platelet- Rich Fibrin (PRF), regeneration, oro-antral communication, cyst, wound.

363. DETERMINATION THE EFFECTIVENESS OF THE USE OF VARIOUS GUIDED BONE REGENERATION TECHNIQUES IN IMPLANT-PROSTHETIC REHABILITATION OF PATIENTS.

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Introduction. Currently, aesthetic and functional dental treatment is widely requested among patients and the demands are increasing. But very rarely when the patient has perfect conditions having often bone deficiency. Guided tissue regeneration is the process of restoring or rebuilding the lost or damaged surface with the ultimate goal of obtaining completely or partially its tissue and function. The main purpose in tissue regeneration of the bone deficient field is to provide optimal and necessary conditions for the implant-prosthetic rehabilitation of

the edentulous patient. Implant-supported prosthesis in many cases is possible only due to regenerative methods.

Aim of the study. Determination of the effectiveness of the use of bone additions with xenogenic materials and collagen membranes in comparison with autogenous grafts.

Materials and methods.. A clinical study has been performed in three patients with different types of bone atrophies. These patients were treated using xeno- and autogenous grafts, as well as with combination of the upper mentioned. In all the cases, buccal bone augmentation has been performed. The postoperative care and healing period (6 months) was evaluated for any healing events. At the end of healing, implants placement has been performed and the integration of graft as well as the quality of bony tissue were appreciated.

Results. The use of guided bone regeneration techniques provides satisfactory results under certain conditions and clinical indications. The best result was observed when using autogenic grafts and the Khoury technique. The xeno-genic material usage for GBR without being mixed with the autogenic bone graft did not give successful results due to a poor integration of graft. The usage of collagen and hydroxyapatite for contour grafting showed satisfactory result as a volume maintaining procedure.

Conclusions. The use of guided bone regeneration techniques with autogenic bone leads to a significantly higher bone quality compared to xenogenic ones. Application of guided bone regeneration technique with xenogen material can give successful results without mixing with autogenic bone only in situations of contour bone addition, in order to maintain a contour of augmented area.

Key words: bone regeneration, implant-prosthetic rehabilitation

364. SUBANTRAL SPACE - ANALYSIS OF THE APPEARANCE OF ORO-ANTRAL COMMUNICATION

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Introduction. The daily practice of the dentist is sometimes associated with accidents and complications, one of these being the oro-antral communication, with a post-extraction incidence of 80%. A major role in the etiology of the oro-antral communication is played by the thickness of the maxillary bone located between the apex of the maxillary teeth and the inferior wall of the maxillary sinus, dimension that varies depending on the age, sex and anatomy of the region. The frequency of involvement of the teeth in the production of oro-sinus communication is different and depends on the group (canine, premolars, molars).

Aim of the study. Analysis of the subantral space and the probability of involving the teeth in the production of oro-antral communication, comparing the data with those exposed in other studies.

Materials and methods.. The paraclinical study included 50 patients, 25 men and 25 women, aged between 20 and 68 years. 546 teeth with 1046 roots were investigated by performing CBCT in the dental clinic "OMNI DENT". With the help of SEDEXIS software, designed for research and analysis of DICOM data, the three-dimensional analysis of each root was performed, the measurements being made between two landmarks, in 3 planes - axial, transversal, sagittal: the first point - the closest one to the apex; second point - on the external

bony surface of the maxillary sinus. The subantral distance between points 1 and 2 was measured, drawing a line perpendicular from point 1 to point 2. The data were analyzed in Microsoft Excel and processed with special formulas, to obtain the medium, minimum and maximum values.

Results. Following the analysis of the data and the obtained values, it was established that the closest tooth to the maxillary sinus is the 3rd molar (average distance 0.27 mm), followed by the 2nd molar- 0.54 mm, first molar- 0.87 mm, 2nd premolar- 1.36 mm, first premolar- 4.58 mm and canine - 5.47 mm.

Conclusions. The data obtained in the present study coincide with the data stipulated by the specialized literature, insignificant differences being expressed in the average values. Analysis of the subantral bone thickness allows to establish the correlation between its volume and the probability of creating an oro-antral communication after dental extraction.

Key words: Oro-antral communication, subantral space, mean distance.

365. EVALUATION OF DIFERENT SURGICAL APPROACHES IN MYCOTIC SINUSITIS TREATMENT

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Introduction. The incidence of mycotic sinusitis in the immunocompetent population has increased in recent decades. This is due to the improvement of diagnostic research, in particular, the new radiographic techniques (CT, MRI) and the increase of conditions that favor fungal infections, corticosteroids and immunosuppressants, radiotherapy, chemotherapy, immunodeficiency disorders. More often in dental practice we will meet with non-invasive maxillary sinus mycosis. The importance of restoring the function of the nasal mucosa after a fungal process is essential in improving the quality of life of our patients.

Aim of the study. Analysis of the factors and sources that determine the fungal infection of the maxillary sinuses, effectiveness appreciation of the treatment methods in the maxillary sinuses: Caldwell-Luc radical cure or functional endoscopic surgery.

Materials and methods.. The study included 36 patients, 16 men and 20 women, with a mean age of 41.3 years, and between 23 and 70 years of age, with a clinical diagnosis of the micotic sinusitis. All the patients in the study have been endodontically treated of the lateral teeth of the upper jaw. The radiological examination confirmed the diagnosis. In all 36 cases, CTs provided the most comprehensive information. The causal teeth were distributed as following: in 20 patients-d. 15, in 9- d. 26, in 2- d.16 and in other 5- the causal tooth was not established because they were extracted previously. The patients in the study were divided into two groups. The first group consisted of 16 patients, who were operated by Caldwell-Luc method and 20 patients operated endoscopically, who made up the second group. The study groups were compared according to the following criteria: postoperative pain, postoperative edema, length of stay in hospital, need for administration of antibacterial treatment.

Results. The Caldwell-Luc method doesn't allow the release of the natural ostium, therefore the sinus ventilation and drainage are not restored and often relapsed. We determined that no patients in group 2 required analgesic therapy during the postoperative period, while patients in the first group received analgesics 2-5 days. The average length of hospitalization was 5.33

days in patients gr. 1 and 2.5 days- in gr. 2. No patient in gr. 2 had postoperative edema, patients gr. 1 had edema for 4-7 days. In patients gr. 1 was administered antimicrobial treatment, for prophylaxis of postoperative septic complications, but in patients gr. 2 did not need antibiotic therapy

Conclusions. Functional endoscopic surgery of maxillary sinus is the gold standard in mycotic sinusitis with predictable results and minimal trauma.

Key words: fungus ball, fungal sinusitis, Cadwell-Luc, functional endoscopic sinus surgery, Aspergillus.

366. ALTERNATIVE IMPLANTATION IN THE EARLY REHABILITATION OF PATIENTS WITH UPPER JAW ATROPHY

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Introduction. In the implant-prosthetic rehabilitation of patients, clinicians often meet extremely difficult situations, when the bone support in the lateral areas of the jaws is insufficient for implant insertion. Under these conditions, alternative implantation methods were proposed, which were hardly accepted, but the success demonstrated over time determines the frequent use of the methods.

Aim of the study. To enhance the effectiveness of early rehabilitation of patients with maxillary atrophy by using alternative implantation.

Materials and methods.. This study was axed on 48 patients (21 women and 27 males) aged 28-67 years, conducted between 2016 and 2020 at the SRL "OMNI DENT". CT scans and OPG were taken in all patients before and after implant placement. In 41 cases implants were inserted using "Fast and Fixed" protocol, in other 7 cases zygomatic implants were used.

Results. In all 48 cases a high primary stability of implants was achieved and all the patients were rehabilitated with temporary implant supported overdenture on the 4.17-th day in mean (std.dev 1.23). In 3 cases implant supported overdenture fixation was delayed to 10-th and 12-th day. In total 255 implants were inserted, of which 2 was lost during the osseointegration. The success rate of this procedure was 99.2%. In total 21 Zygomatic implants were inserted with 100% success rate.

Conclusions. The use of alternative implantation in early rehabilitation of patients, even though, is an effective and predictable method with a high rate of success, is technique sensitive, surgeon has to be experienced based on good preoperative planning. The main advantages are: early rehabilitation, less invasive, avoiding bone grafting procedure, reduced costs, all this helps to raise the patient's quality of life.

Key words: alternative, zygomatic implant, early rehabilitation

367. TEMPORAL BONE ANCHORED AURICULAR PROSTHESIS. TOPOGRAPHICAL, EXPERIMENTAL STUDY

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Introduction. Rehabilitation of maxillofacial defects regardless of etiology, location, size or age is an important, complex and difficult compartment of oro-maxillo-facial surgery. With the presence of the tissue defect, there is a psychological trauma of the patient, after which the quality of life decreases, appears the difficulty of social integration and the presence of psychological inhibitions due to the aesthetic or functional defect.

Aim of the study. Experimental verification of the possibility of rehabilitation of patients with anotia of different genesis by means of ectoprosthesis anchored on extraoral implants.

Materials and methods.. The study group comprises 161 patients who addressed themselves within "Otolaryngology Department" of the State University of Medicine and Pharmacy "Nicolae Testemitanu" in the period 2015-2017. In the study, there was performed the three-dimensional analysis of the bone supply and the densitometric analysis of 14 computed tomography of various patients without anotia. In order to continue the experimental study, we proceeded to the surgical part by inserting two implants in the temporal bone on prepared cadaveric. Then we made the surgery on a real patient with post-traumatic anotia.

Results. Statistical analysis of the clinical data of the patients, showed that 4 patients from 161 patients had an anotia. Statistical studies on the anotia in the Republic of Moldova do not exist, but the result of the own study obtained, relatively corresponds to the frequency data reported in the literature from other countries. The maximum value of temporal bone supply obtained from the dimensional point of view was 8.21 mm, and the minimum value 1.01 mm in the region of the supramastoid crest and the upper part of the mastoid apophysis. In the densitometry analysis we obtained the maximum value of 1413 pHU (pseudo-Hounsfield units) and the minimum value of 46 pHU. The mean dimensional value of the patients investigated paraclinically is 4.30 mm. The average bone density is 659.85 pHU. We made a surgery of inserting 2 implants in the temporal bone on prepared cadaveric then on a real patient with anotia.

Conclusions. There are areas of major importance, which must be known and avoided in the planning process. We have located the appropriate implant insertion areas to obtain sufficient primary stability and their osseointegration. The paraclinical examination is mandatory in the process of planning and establishing the bone supply and the relation of future implants with the neighboring anatomical elements. By conducting the experimental study on prepared cadaveric, we have shown that, the mastoid apophysis and the upper mastoid crest represent favorable areas for the insertion of extraoral implants. We successfully performed the surgical stage of the rehabilitation process of a patient with post-traumatic anotia.

Key words: anotia, auricular ectoprosthesis, extraoral implants, temporal bone

368. THE INCIDENCE OF APPEARANCE OF ALVEOLAR OSTEITIS USING TWO SURGICAL TECHNIQUES IN THE IMPACTED MANDIBULAR THIRD MOLARS

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Introduction. Alveolar osteitis it is by far the most frequent painful complication of extraction. It is frequently unpredictable and without any obvious predisposing causes, but numerous possible etiological factors exist.

Aim of the study. The objective is to define the condition known as alveolar osteitis and to critically review and discuss the etiology and pathogenesis of alveolar osteitis. In addition, the incidences of alveolar osteitis following third molar surgery using two different bone cutting methods: physio-dispenser and slow speed hand piece. Also the need for elimination of risk factors as well as the preventive and symptomatic management of the condition is discussed.

Materials and methods.. Literature was selected through a search of PubMed, Embase electronic databases. The appropriate criteria of this study included the following: the patients were clearly diagnosed as having impacted mandibular third molars, the patients underwent physio-dispenser and slow speed hand piece surgeries, and the main complication was alveolar osteitis. They were divided in 2 groups according to the used technique. Most patients were recorded and investigated in a double-blinded manner, on the third and on the seven day after surgery for assessment of alveolitis.

Results. Out of 100 scientific publications that were searched, were found only 5 relevant studies that compare the rotary system with the physio-dispenser surgeries. Alveolar osteitis is considered as typical post-extraction state and 97–100% cases were reported within a week of extraction. The summary of these indicate post-operative sequelae were insignificant in slow speed hand piece group. Beside the mode of cutting the bone the flap design, bone depth, irrigation during procedure, and medication; also play a major role in causing AO.

Conclusions. In the current prospective study, was concluded that alveolar osteitis was not observed in the slow speed hand piece group, and was more effective with no complications as compared with physio-dispenser.

Key words: Alveolar osteitis, Dental extraction, Surgical technique

369. RADIOLOGICAL ASPECTS OF MAXILLARY BONE MORPHOLOGY IN PATIENTS WITH OSTEOPOROSIS

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Introduction. Osteoporosis is a common systemic disease of the skeleton, characterized by low bone mass and disturbances in the microarchitecture of bone tissue, which leads to increased fragility of bones and the risk of fractures. Osteoporosis on the radiologic image is characterized by an increased transparency of bone tissue and other signs, depending on the

degree and duration of the dystrophic process. To evaluate the morphology of the inferior cortex in panoramic radiographs according to the classification of Klemetti.

Aim of the study. Evaluation of radiological image of maxillary bone morphology in patients with osteoporosis.

Materials and methods.. Study of a group of 32 patients with osteoporosis treated in the “Omni Dent” dental clinic. The age of the patients - from 18 to 71 years. Evaluation of radiographic indices of osteopenia/osteoporosis according to Klemetti, based on radiological examination on OPG and CT 3D correlated with DEXA. The information from OPG and CT 3D was processed on the available equipment software (Sirona Sidexis 4.0). Were analyzed the following radiological aspects of maxillary bone: the appearance of glomerular picture where it was not; thinning of the cortical layer; expansion of the medullar space; spongiosis of the cortical layer; emphasized contours of the bone in severe osteoporosis.

Results. Patients were divided into 3 study groups by age: group I (35-44); group II (45-54); group III (≥ 55 years of age). We have observed a dependence between the age group and the radiological changes of the bone microarchitecture. This phenomenon is confirmed by a strong direct correlation between the age and the degree of osteoporosis ($r_{xy}=0.676$, $p < 0.001$). By comparing the OPG data with the osteodensitometric data we determined that the Klemetti method has a rate of 82.5 % statistical accuracy.

Conclusions. The examination using the DEXA, OPG and CT 3D allows establishing an accurate, clear and correct diagnosis, as well as choosing a safe treatment plan acceptable in each clinical case. The obtained result allows us to consider the Klemetti classification as a sufficient method for early diagnosis of suspected osteopenia/osteoporosis, and the obtained information can be used in subsequent prosthetic implant rehabilitation planning.

Key words: maxillary bone, osteoporosis, radiological examination

370. REGENERATIVE THERAPY USING THE PRP TECHNIQUE IN LOWER WISDOM TEETH POSTEXTRACTIONAL WOUND REGENERATION

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Introduction. Regenerative therapy is based on the supply of growth factors and bioactive proteins to the damaged sites in order to restore the integrity and function of the tissues, thus improving the patient's health. Postextractional wound healing and maintaining bone tissue level can be accomplished by postextractional defects augmentation, but a method for stimulating regenerative processes of peridental tissues is the injection of thrombocyte autoplasm immediately postextractional. In the contemporary dental-alveolar surgery, the number of patients requiring complex treatment associated with the eruption pathologies of the third molars has increased significantly. The complications caused by the impacted wisdom teeth are of particular importance for the dentist, both through the clinical and therapeutic problems they raise and by the fact that they occur frequently in young people.

Aim of the study. Determining the effectiveness of the PRP in the regeneration of the postextractional socket of the lower third molar.

Materials and methods. A prospective clinical study was performed on 22 patients (8 women and 14 men). The mean age of the sample was 22.88 ± 5.263 years (range 19-32 years), which were divided into two study groups, numerically equal. The patients in the study group were treated by the method of injection with thrombocyte autoplasm immediately after the extraction, and in the control group the postoperative standard care was performed.

Results. There were no significant differences between the sexes ($P = 0.54$) and the age ($P = 0.19$) in the two groups. T-Student test performed for the degree of mouth opening ($P = 0.007$), facial edema ($P = 0.019$), pain scores (VAS) on the third and seventh day after surgery (DAS) and all these variables showed differences statistically significant.

Conclusions. The use of platelet autoplasm has a positive effect on the healing of hard and soft tissues. Moreover, this seems to facilitate tissue regeneration and lessens the risk of complications following surgery. The benefits of using PRP are: simple, inexpensive technique, the possibility of obtaining a large number of autologous membranes, which helps to recover the tissues in a shorter time. Nowadays, according to the studies carried out by the researchers, platelet-enriched autoplasm is a harmless and promising method, with satisfactory clinical results.

Key words: PRP (platelet-enriched plasma), lower molar 3, regenerative therapy, platelets, growth factors.

371. ALVEOLAR BONE RECONSTRUCTION WITH AUTOGENOUS INTRAORAL GRAFTS IN THE CONTEXT OF POSTTRAUMATIC REHABILITATION

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Background. The rehabilitation in conditions of bone loss supposes a bone augmentation surgery. The optimal choice for this kind of performance is the autogenous grafts harvested from the patients own body especially intraoral sites. Khoury introduced a new method for grafting ridge defects in 2007, using thin cortical plates harvested from the ramus, and in a 'sandwich' type manner, interposed these bone plates with cancellous bone harvested from the same site. The principles involved in successful bone grafts include osteoconduction, osteoinduction, and osteogenesis. Osteogenesis only occurs with autograft tissue and cellular bone matrices therefore.

Case report. 21-year-old female presented for the restoration of her missing dentition in her upper jaw due to an early childhood trauma. CBCT revealed a large horizontal and vertical bony deficiency in the region of the upper anterior teeth, The Khoury technique was decided to apply, using bone fixation screws, the bone plates that were harvested from the ramus were fixed to the buccal defect, the space between the plate and the existing palatal bone wall was then filled using a combination of autograft bone scrapings and xenograft bone particles. Six months after the initial surgery, the grafted sites were surgically re-entered and showed a marked increase in ridge dimensions from 4,2 to 9,5 mm. The regeneration of the alveolar crests took place in conventional terms without complications, donor site was fully restored without signs of morbidity. The radiological and clinical examinations 6 months postoperative

showed up a good result of bone formation nearly 5.3 mm. The advantages of using mostly intraoral autografts in GBR technique comparatively to others is that they provide a good bone regeneration, stimulate local resources of the bone, serve as the source of BMP, serves as a scaffold for new bone growth that is perpetuated by the native bone, actually autografts integrate all basic peculiarities that the bone needs to regenerate its structure and reestablish all the physiological functions.

Conclusions. The usage of autogenous intraoral grafts as a method of augmentation appeared to give a stable and relatively quick result. If good surgical skills are performed, the graft seems to facilitate tissue healing and promote bone formation that is most important for the subsequent posttraumatic rehabilitation of the patient.

Key words: Autogenous grafts, regeneration, augmentation, Guided bone regeneration (GBR), Khoury technique.

372. THE ROTATED PEDICLE PALATAL CONNECTIVE TISSUE FLAP TECHNIQUE (RPPCTF) IN MANAGEMENT OF SOFT TISSUE DEFECTS

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Introduction. Esthetic and functional reconstruction of soft tissue in maxilla have driven the evolution of plenty of techniques for rehabilitation. Selection of a proper surgical technique often causes difficulties. The closer the flap donor site is to the defect; the less morbidity is associated with the reconstructive surgery. The RPPCTF technique present a multilateral application. It can be used in closure of the alveolus after immediate implant placement, complete socket closure, increasing soft-tissue volume, papilla reconstruction, defects and dehiscence repair, closure of oro- antral communication (OAC).

Aim of the study. Evaluation of the soft tissue reconstruction technique for covering defects associated with maxillary region.

Materials and methods.. This study was axed on 7 patients which represent the different types of soft and bone tissue defects in maxillary aesthetic zone. In 3 cases this technique was performed to complete socket closure and postponed implant placement. Closure of oro-antral communication was performed at 1 patient, closure of the alveolus after immediate implant placement was performed in 3 cases. After local anesthesia and a minimally invasive extraction of tooth, the socket was curetted and inspected. The dimensions of the socket were measured and considered for RPPCTF technique preparation. A single palatal incision (Hurzeler MB, Weng D.) design was placed, pedicle graft was prepared leaving the mesial side attached, then is checked for freedom of movement, rotation and placement. The pedicle graft is rotated and positioned over the edentulous area and onto the buccal surface. After that the flap are sutured using horizontal mattress and simple interrupted sutures. The donor site remains primarily covered.

Results. During treatment with this method partial flap necrosis did not occur. All patients showed a significant improvement over the preoperative condition. In all cases we got a large volume of soft tissue, excellent esthetic results, primary socket closure. RPPCTF can help to

preserve or restore the natural ridge contours. In addition to providing graft containment, the RPPCTF can also serve as a barrier membrane during bone regeneration.

Conclusions. The rotated pedicle palatal connective tissue flap is a relatively simple technique for soft tissue coverage without excessive tension. It is an excellent technique that can be used to improve the vertical and horizontal thickness of soft tissue. It can be employed to improve aesthetic soft-tissue structure around the tooth, implants and intraoral defects.

Key words: Rotated pedicle, soft-tissue, socket, regeneration.

373. DENTAL EXTRACTION - IMMINENT SOLUTION IN CROWN-ROOT FRACTURE – CASE REPORT

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Background. Complicated crown-root fractures represent 5-8% of all dento-periodontal cases of trauma, some being on the borderline between therapeutic conservative and radical surgical treatment. Despite being the last option in any treatment method, tooth extraction serves in some cases as the only solution to improve the clinical situation.

Case report. Patient B.A. addressed 11 months ago with the following complains: pain and tooth 21 mobility as a result of a trauma produced at home. Initially the goal was to preserve the tooth, so we opted for and performed endodontic treatment and rigid immobilization. The patient was monitored in time, but came again with the same accusations, and more than that, with the presence of fistula with periodic purulent eliminations in the projection of the tooth 21 apex. By the clinical examination and the analysis of the complementary radioimaging (OPG, CBCT), the diagnosis established was: Crown-root fracture of the tooth 21. Chronic granulomatous periodontitis of the tooth 21 associated with fistula at the level of the apex projection. As a result, the extraction of both the coronal and root fragments was performed, the post-extraction alveolar socket was examined, noting the absence of the vestibular wall (type 3 alveolar socket). The creation of the Vascularized Interpositional Periosteal Connective Tissue flap (VIP-CT) from the palate (single incision technique – Zuhr), allowed to omit the use of other types of bone grafts to cover and restore the bone defect of the vestibular wall. After the suture of the post-extractional alveolar socket and of the palatal flap, a Maryland temporary bridge was made. Subsequently, dental implantation was planned using the virtual surgery technique, with the creation of the template for guided insertion of the implants according to the "fully guided" method. The simulation of the surgery was performed on the 3D printed composite models, at the same time making the provisional crown. After the period of 10 months since the tooth extraction, type 4 postponed implantation was performed with the use of the connective tissue graft taken from the tuberosity, followed by the immediate loading of the implant with the screw retained temporary crown.

Conclusions. A good result was achieved, the dental extraction proving to be in this case the safest and most effective method of treatment, and the regeneration potential of the body allowed to rectify the defect even without the use of additional biomaterials.

Key words: extraction, fracture, trauma, guided surgery

374. BONE RECONSTRUCTION OF THE UPPER JAW WITH SEVERE ATROPHY BY INTERPOSITION OF AUTOGENOUS BONE GRAFT FROM THE ILIAC CREST. CASE PRESENTATION.

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Background. After tooth extraction, the alveolar ridges undergo a more pronounced resorption in the absence of physiological mechanical stimuli on the alveolar bone, but due to non-physiological forces, they lead both to horizontal and vertical bone loss, resulting in bone atrophy. Evaluation of the bone reconstruction method by autogenous graft interposition for implant-prosthetic rehabilitation of patients with severe upper jaw atrophy.

Case report. The patient B.A., 38 years old, non-smoker, with satisfying oral hygiene and mean smile line, was diagnosed with Bimaxillary retrognathism with obstructive sleep apnea syndrome, class I subclass I edentation after Kennedy at maxilla, combined bone defect in the region teeth 1.2-2.2. This diagnosis was established following the standard clinical and paraclinical examination: photographic examination, analysis of study models, CBCT, profile telerradiography, based on which the surgical guides for the repositioning of the jaws were manufactured. The surgical treatment consisted in the Le Fort I osteotomy of the upper jaw with the application by interposition of the granulated xenograft mixture with autogenous bone graft of iliac crest harvested by the minimal-invasive technique and its immobilization with osteosynthesis plates in the normo-cephalometric position. The lower jaw was also advanced, after bilateral sagittal osteotomy, in accordance with the upper jaw. As a result of the bone reconstruction by interposition of autogenous graft from the iliac crest, a sufficient bone volume was obtained both in width and in length for insertion of dental implants of optimum dimensions, which allowed the patient's rehabilitation from the morphological, functional and aesthetic point of view.

Conclusions. Reconstruction of the upper jaw with severe atrophy can be performed by the technique of interposition of autogenous bone graft from the iliac crest in combination with xenograft. This method offers a good possibility of morpho-functional and aesthetic rehabilitation with a high degree of predictability.

Key words: bone reconstruction, interposition graft, iliac crest graft.

375. MICROBIOLOGY OF MANDIBULAR THIRD MOLAR PERICORONITIS

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Introduction. Pericoronitis is an inflammatory and infectious condition that may accompany the eruption of teeth, especially the third molar, the microbial flora that develops in the distally located pseudopocket is the major etiological factor. This flora consists of obligate anaerobes, anaerobic and aerobic streptococci. Therapeutic management usually involves a combination of conservative and surgical treatment.

Aim of the study. To establish the predominant microorganisms involved in the etiology of acute pericoronitis for a targeted antibiotic therapy.

Materials and methods.. This explorative study was conducted in the Department of Oral and Maxillofacial Surgery and Oral Implantology „Arsenie Guțan” in collaboration with three private laboratories of medical investigations during October 2018 - December 2019. Pericoronal pockets of mandibular third molars from 23 patients showing symptoms of acute pericoronitis were sampled and subjected to microbiologic analysis.

Results. In the majority of cases (15/23), the anaerobic flora predominated. Obligate anaerobes were present in 19 of the 23 samples. The bacteria most commonly detected were alpha-hemolytic streptococci (23/23), Prevotella (12/23), Veillonella (12/23). Amoxicillin and Cefixim were the most active in reducing the anaerobic cultivable counts. Besides obligate anaerobic bacteria, a predominantly pathogenic aerobic microflora was cultivated: Streptococcus viridans (78% of samples), Stomatococcus salivarius (71%), and Rothia dentocariosa (57%).

Conclusions. These results highlight the diversity of the microflora associated with pericoronitis and their susceptibility can vary even within a species. As the anaerobic flora predominates, beta-lactame or any penicillins are highly recommended.

Key words: pericoronitis, microflora

DEPARTMENT OF STOMATOLOGICAL PROPAEDEUTIC, *PAVEL GODOROJA*

376. CANNABIDIOL (CBD): AN ALTERNATIVE APPROACH IN GUM DISEASE MANAGEMENT

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Introduction. Periodontal diseases are one of the most common diseases in the oral cavity- as the statistics given by the American Academy of Periodontology (AAP) suggest over forty-seven percent (64.7 million adults) of Americans over the age of thirty suffer from severe manifestations of periodontitis. The symptoms of periodontal disease include redness of the gums as well as gingival inflammation, formation of periodontal pockets, and the destruction of supporting tissue. Recent studies demonstrate that cannabidiol may have positive effects on reducing or in some cases ceasing gum disease by its anti-inflammatory, analgesic, ability to interact with CB2 receptors and antibacterial properties. It is necessary to demonstrate the effects of CBD and it's counteraction against these diseases.

Aim of the study. The effects of cannabidiol on the treatment of symptoms associated with periodontal disease.

Materials and methods. The design of our study and the scoping review involves a systematic exploration of various research however does not indicate an analysis of the methodological quality of studies. This review presents an analysis of the available articles in literature by providing a prospectus of existing content that is setting the future for research paths and

pointing to the gaps within the literature. We conducted a review by applying a structured search method in PubMed, Science Direct, LI- LACS, and SciELO.

Results. When conducting our research, we reached the conclusion that cannabidiol possesses a positive effect on periodontal and gum diseases by reducing the pain and inflammation and may even have an effect on preventing the disease entirely.

Conclusions. The research and statistics compiled uncovers that the benefits of cannabidiol in treating symptoms of periodontal diseases outweigh the substance's disadvantages. Moreover, cannabidiol proves to have capabilities in the advancement of dental medicine by demonstrating its potential to prevent such diseases as well as proving its worth for further research aimed in the prevention of such diseases.

Key words: Cannabidiol, CBD, periodontitis, gingivitis, gum disease

377. MODERN METHODS OF THREE-DIMENSIONAL FILLING OF THE ENDODONTIC SYSTEM

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Introduction. The root canal has a complex anatomy, with irregularities, isthmus and lateral channels, which contain bacteria and necrotic tissue. The tooth root are provided with main, accessory and lateral channels, apical delta and communications between different channels. Some of these areas are difficult to seal using traditional techniques. The major objective of the root canal treatment is the three-dimensional filling of the endodontic space after it has been completely cleaned, conformed and disinfected. The purpose of the canal filling is to seal any "exit gate", not to allow any exchange between the endodontic and periodontal space. Therefore, to achieve this goal, it is necessary to fill the canal as tightly as possible, without empty spaces enclosed. It is shown that the vast majority of endodontic failures are closely related to incomplete canal filling. By the most of the techniques used actually is possible to fill the main root canal, but not to fill its lateral or apical channels. So, a variety of sealing techniques were developed using thermoplastic gutta-percha. They try to create a specific filling for each channel, root, which generates a three-dimensional filling that reproduces its own anatomy

Aim of the study. Studying and applying in practice the modern methods of three-dimensional filling of the endodontic system

Materials and methods.. In the study were used methods of research and analysis of national and international bibliographic sources regarding the thermoplastic sealing of the endodontic system. The study is based on data obtained following the treatment applied to a sample of patients diagnosed with acute and chronic pulpitis, aged between 18 and 50 years. The object of study was the patients diagnosed with pulpitis, both types: acute and chronic

Results. Following the practical application of modern methods of three-dimensional filling of the endodontic system, patients received adequate treatment, obtaining a tight filling without empty spaces, demonstrating the effectiveness of using modern methods in endodontic treatment. The results of this study have shown us that it is very important to consider that the

percentage of success and prognosis of endodontic treatment depends directly on the ability of the filling to seal all communications of the canalicular system with the desmodontal space

Conclusions. Following the study of the national and international literature and the practical application of the modern methods of filling the endodontic complex, we found that we can obtain a good and stable three-dimensional seal. The results obtained from the study have shown that we can achieve the elimination of root canal content using a correct treatment technique, by using of the medicinal materials and substances present at this time, and not least by the correct choice of the method of filling the endodontic space at the final stage. Compliance with the clinical protocol in the activity helps us to obtain an efficient, three-dimensional filling, without post-treatment complications

Key words: Endodontic system, three-dimensional obturation, modern methods

378. FORDYCE GRANULES IN ORAL MEDICINE

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Background. Fordyce granules are whitish-yellow ectopic sebaceous glands found within the oral mucosa that can occur on the edge of the lips or inside of the cheeks. They usually develop as isolated or symmetrically distributed ectopic sebaceous glands and tend to become obvious after puberty, however they might sometimes cluster together. They can be white, yellowish-white, slightly raised papules on the buccal mucosa and vermilion of the upper lip.

Case report. Clinical examination was carried out on 3 patients in order to identify Fordyce granules and determine the sites of predilection on the buccal mucosa. The patients did not undergo any treatment. The research findings have shown that these harmless spots can cause complaints due to their appearance but do not present any health risks.

Conclusions. -Fordyce granules is a particular condition. -They are not infectious. -The normal character of Fordyce Granules do not cause any untoward effects.

Key words: -Identification. -Treatment.

379. FUNCTIONAL CHARACTERISTICS OF DENTO-FACIAL RELATIONSHIPS

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Introduction. Extent of exposure of the frontal teeth in the postural rest position is variable and is influenced by the dimensions and the position of the teeth, by the conformation of the dental arches, by fullness of lips and the facial muscular tonus. Studies oriented towards the perception of aesthetics in the field, have shown certain correlations in this regard. The aesthetic analysis of the dento-facial relationships in the smile includes other components such

as the lip line of the smile, the negative space and the symmetry of the smile. The aesthetic examination methodology in all its complexity needs to be supplemented with the examination of the dento-maxillary and phonetic relationships. The way of pronouncing some sounds as well as the qualitative and quantitative values of the parameters of anterior guidance need to be evaluated and correlated with the aesthetic criteria, within the oral rehabilitation.

Aim of the study. Development of a diagnostic procedure and treatment for functional disorders of the anterior group of teeth.

Materials and methods.. Were examined and selected 7 patients between the ages of 30 and 55 years who showed signs of wear of the upper anterior group. The clinical and instrumental examination was completed with imaging methods and digital photography. The curative objectives followed the morphofunctional rehabilitation of the stomatognathic system.

Results. Following the complex clinical examination, were determined the qualitative and quantitative parameters of the aesthetics, occlusion and phonetics. The complementary examinations confirmed some aspects of the existing morphofunctional disorders. The correlation of the values of the parameters listed above in the context of physiology, bio aesthetics and biomechanics served as an indication in the elaboration and realization of the complex treatment plan.

Conclusions. The morphofunctional rehabilitation of the anterior group of teeth after dental wear, requires a complex examination, with the elaboration and realization of a sequenced treatment plan with multi-aspect curative objectives.

Key words: Dento-facial relationship, morphofunctional, anterior group of teeth, aesthetics.

380. DIAGNOSIS AND TREATMENT OF ANTERIOR DENTAL CROSSBITE

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Background. Anterior dental crossbite is a common problem in the primary and mixed dentition and needs early intervention to prevent further damage to occlusion. According to its origin, it can be differentiated into skeletal and dental crossbite. Dental anterior crossbite is a more localized problem and more easily managed. Simple dental crossbite show a frequency of 3% to 12% cases. Crossbite usually do not self-correct with age. As Tausche et al. reported anterior crossbite show progression in severity in the permanent dentition. The aim of the study is to evaluate the effectiveness of early diagnosis and interceptive treatment of anterior dental crossbite removable Hawley appliance.

Case report. In the study were included 10 consecutive patients according to the following criteria: mixed dentition, anterior crossbite, no extreme functional shift, no posterior crossbite, no previous orthodontic treatment. The patients with anterior dental crossbite in the mixed dentition were treated with a removable Hawley appliance with occlusal coverage and a single finger spring. Patients were followed until a minimum of 6 months post-treatment. Results, Active treatment of the successfully treated cases lasted 2,5 months. Crossbite correction of central incisors were achieved by forward movement and buccal inclination of the crowns. Results remain stable during follow-up period without using any retention regime. No other important adverse events were reported by the patient except moderate to severe discomfort during mastication.

Conclusions. Correction of dental anterior crossbite is a simple approach in mixed dentition, which has high success rates and requires minimum level of compliance. Based on the results, this approach can be suggested for anterior crossbite as an early orthodontic treatment in mixed dentition.

Key words: dental anterior crossbite, treatment, removable appliance, mixed dentition.

DEPARTMENT OF PROSTHODONTICS *ILARION POSTOLACHI*

381. CLINICAL ASPECTS AND PARTICULARITIES OF PROSTHETIC TREATMENT OF COMPLETE BIMAXILLARY EDENTULOUS

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Introduction. Considered a physical impairment that affects more than 158 million people globally, complete edentulism compromises the oral function and esthetic aspect, negatively influencing the quality of life. The main objectives of the treatment are: 1. Rehabilitation of the affected functions of the stomatognathic system- esthetics, mastication, phonation (principle of homeostasis). 2. To ensure the denture`s stability during function (principle of biomechanics). 3. Stimulation of trophicity of supporting tissues and avoidance of injury due to masticatory pressures, contact of the prosthesis with the soft tissue or modification of the oral chemistry (prophylactic and biological principles). Despite all the advances made in the last years in the field of dental prosthetics, biomaterials and implantology, the treatment of complete edentulism through a total prostheses remains a relatively simple, non-invasive and relatively inexpensive solution. Even if, conventional prostheses do not ensure a full rehabilitation, since the comfort and function are influenced by lots of factors- retention, supporting tissues status and stability, it is a good option for patients who present adequate bone supply but for reasons of general health or because of the high price, cannot benefit from an implant-prosthetic treatment.

Aim of the study. The study of clinical aspects and particularities of prosthetic treatment of complete bimaxillary edentulous through total prostheses to obtain a state of functional balance.

Materials and methods.. The study included 7 patients (5 women and 2 man), aged between 65-72 years, who addressed themselves at the University Dental Clinic of the USMF “Nicolae Testemitanu” for prosthetic treatment. The criteria for inclusion in the study were: the presence in patients of total bimaxillary edentations, with medium to severe atrophies, carrying classical total prosthesis. The clinical and paraclinical examination was performed for the whole group, and the patients received total prostheses, followed by functional tests and evaluation of the patients` perception after 2 weeks.

Results. All 7 patients reported a high level of satisfaction, after 2 weeks using total prostheses. Functional tests showed good results during testing retention and stability.

Conclusions. When both practitioner and dental technician respect all clinical and technical aspects, total prostheses still represent a very good and comfortable option of treatment for complete bimaxillary edentulous patients.

Key words: completely edentulous, total prostheses, intermaxillary relationships.

382. AESTHETIC RESTORATIONS OF THE ANTERIOR GROUP OF TEETH WITH ALL- CERAMIC FIXED MICROPROSTHESIS.

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Introduction. Nowadays, the natural aspect is the main aim to be achieved in the aesthetic dentistry domain. Patients not only want to restore the dental arches with a good and durable material, but also the appearance has to be as pleasant as possible. According to these needs, physiognomic dental crowns were created. The global trend in dentistry is to replace the metal component, which although responds well to functional requirements, from an aesthetic point of view is not desirable. Thus, the metal alloys used in the dental treatments, even from gold alloys, lose ground in front of the new generations of integral ceramics masses.

Aim of the study. Studying the particularities of the clinical picture of the dental coronary lesions, establishing the indications for the constructing of the fully ceramic physiognomic crowns IPS e.max Press and applying the Vitapan-3D-Master color key to the clinical stage of color appreciation.

Materials and methods.. 7 patients (3M; 4W) aged 25-45 years were included in our study with the diagnosis of dental coronary lesions of the anterior teeth group, IV class by Burlui, as a result of complicated decay with aesthetic and morphological disorders. In the treatment of 3 patients, we applied fixed metal-ceramic microprosthesis, and in 4 patients all - ceramic fixed microprosthesis.

Results. Dental coronary lesions treated using fully ceramic fixed microprosthesis restore the more natural appearance of the teeth due to the reflective properties of IPS type ceramic masses, a higher biocompatibility and a perfect marginal closure than the fixed metal- ceramic microprosthesis.

Conclusions. All - ceramic fixed microprosthesis reduce the number of clinical-laboratory steps, offer an excellent aesthetic appearance and high biocompatibility. The scientific progress in the field of dentistry over the years develops and allows the practical application of new types of materials and technologies.

Key words: physiognomic dental crowns, dental aesthetics, all - ceramic fixed microprosthesis.

383. PROSTHETICALLY DRIVEN IMPLANT PLANNING

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Introduction. Ideal implant treatment planning requires close collaboration between the prosthodontist and the surgeon to determine the optimal placement of the implant in relation to the available bone and the prosthetic requirements. The ideal placement of dental implants should be determined by prosthetic parameters which depend on the position of a tooth in the

arch and occlusion. The exact position of the implant in the bone with respect to location and angulation is often difficult to accurately achieve.

Aim of the study. Evaluation of the most commonly used surgical guides for backward planning.

Materials and methods.. Five patients, 3 men and 2 women (aged between 30 and 50 years old), have been included in the research. Two cases out of 5 were with frontal single tooth edentation, 1 patient had Kennedy Class II partial edentation, 1 patient with Kennedy Class I edentation and 1 patient with complete edentulism. Ten implants of 2 stages were inserted with partially guided surgery (static guided surgery). One-demand software was used for CBCT analysis and for planning. The Blue Sky Plan and 3Shape softwares were used for surgical guide fabrication. As for the initial planning in 4 cases wax up had been made and scanned, in 1 case for CBCT patient's old prosthesis had been contrasted. Different surgical guides have been used: 3 of them were tooth-supported, 1 was tooth and tissue supported and 1 was solely tissue supported without the usage of support pins. The deviation degree was analyzed after the implantation by merging the CBCT with the initial planning.

Results. In this study, 1 surgical guide was fractured, another surgical had positioning difficulties which required adjustment. Other guides fitted with no adjustments. After the radiological evaluation it was found a favorable/good angulation and position which was almost alike with the one planned initially.

Conclusions. It can be concluded that the surgical guides will continue to be a valuable adjunct to achieve precision in today's prosthetic driven implantology. Backward planning allows for a precise and predictable implant placement that improves the communication between prosthodontist and surgeon with the achievement of a better result of the treatment.

Key words: implant, surgical guides, prosthetically driven implantology.

384. COMPARATIVE EVALUATION OF GOLDEN DENTAL PROPORTION AND RECURRING ESTHETIC DENTAL PROPORTION (RED)

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Introduction. In order to understand the aesthetics in the dental practice and to determine some objective and universal proportions, which describe the size of the teeth, various studies have been conducted. The width ratio of the maxillary teeth is an important factor in dental and facial esthetics. It reveals objective data which is necessary in restorative treatment planning. The Golden proportion (1/1.618 or 62%) and the recurring esthetic dental proportion (RED) are two different theories that have been suggested to rehabilitate an optimal smile. Red proportion allows using individual proportion in different cases, as long as it remains consistent, proceeding distally in the arch.

Aim of the study. The aim of this study was to evaluate and compare the Golden and RED proportions in physiologic permanent dentition.

Materials and methods.. This study was conducted on 22 patients. Photographs of each patient's maxillary model were taken from the frontal view in order to study apparent teeth width ratio. The perceived width ratios of lateral incisor to central incisor, canine to lateral incisor, first premolar to canine and second premolar to first premolar were calculated. In this study, the Golden proportion (62% or 0.62) was evaluated within the range of 59-65% (0.59 –

0.65). To evaluate the RED proportion in each subject, these width ratios were compared. The differences of 3% (0,03) or less were accepted.

Results. The Golden proportion was observed in 34% of the perceived width ratios of lateral incisor to central incisor, 0% of the width ratios of canine to lateral incisor, 36% of the width ratios of first premolar to canine and 18% of the width ratios of second premolar to first premolar. The average ratio value was 70%. The RED proportion existed in 16% (22 cases) of the width ratios comparisons (132 comparisons of 176 width ratios) with an average ratio value of 66% in these cases. Only 1 subject from 22 had on left maxillary hemiarch total RED proportion.

Conclusions. The Golden proportion was observed predominantly in width ratios of lateral incisor to central incisor and width ratios of first premolar to canine. In most cases the widths of canines cannot be included in any proportions. These both proportions can be used in reconstructive treatment in maxillary arch, but in conformative treatment the use of fixed constant proportions is limited.

Key words: Dental, Ratio, Golden, Proportions, Teeth.

385. INDICATIONS AND PARTICULARITIES OF THE CLINICAL-TECHNOLOGICAL STEPS OF MANUFACTURE OF TEMPORARY FIXED PROSTHETIC CONSTRUCTIONS

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Introduction. Crown lesions as well as reduced partial dentation are the most common dental conditions, which require prosthetic treatment. Fixed treatment of crown dental lesions and partial dentation is permanently accompanied by grinding of hard teeth structures and without their manufacture is often impossible (I.Postolachi; V.Guțuțui 1990).

Aim of the study. The study of the particularities of the clinical picture of the crown dental lesions and of the reduced partial dentation by determining the effectiveness of the contemporary technologies for making the temporary fixed constructions.

Materials and methods.. 25 patients was treated with prosthetic indications, age 22-47 years with coronal and edentulous dental injuries reduced to one or both jaws. The examination of the patients was performed clinico-instrumental, photometric, radiological; the diagnostic models in the articulator were studied. The Luxatemp Star Bisacrylic material was used to make the provisional crowns and bridges, made by the direct method. This is a high performance material by increasing the resistance to tearing and bending, and the grip time is reduced. The co-worker of these material provisional restaurants are aesthetic, durable and stable. Parallel high quality PMMA Bilkim material was also used, which allows the milling method to make fixed constructions of both single crowns and long-lasting dental bridges.

Results. The study argues that the construction of provisional constructions in case of coronal dental lesions and reduced partial dentation contributes to: protection of the dental pulp and gingival tissues from harmful factors (physical, chemical and microbial). It allows the prosthetic doctor to specify the diagnosis and to perfect the treatment plan and its motivation to the patient as well as to transmit some information to the dental technician. We mention that

both the crowns and the provisional dental bridges allow the healing of the post-extraction and peri-implantation remaining tissues, establish the occlusal relationships and the vertical dimension of occlusion, prevent the dental migrations and last but not least, by fixing them with the provisional cement they stimulate the repair processes in the tissue.

Conclusions. The provisional prosthesis in fixed prosthetics has a privileged place. It is true that it raises costs, but in developed countries, it is no longer possible to design fixed prosthetics without provisional prosthetics.

Key words: fixed constructions, provisional prosthetics.

386. PROSTHETIC TREATMENT OF PARTIAL EDENTULISM KENNEDY CLASS III WITH PORCELAIN FUSSED METAL BRIDGES

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Introduction. According to the data of the World Health Organization of September 2018 "oral diseases affects half of the world's population (3.58 billion people)". The oral diseases "are the most common noncommunicable diseases" that "affect people throughout their lifetime, causing pain, discomfort, disfigurement and even death". Among the harmful factors that affect the stomatognathic system which guides to the partial edentulism are the endogenous factors such as metabolism disturbances, endocrine glands dysfunction, hereditary factors and neurodystrophy of hard tissues. As exogenous factors can be pointed out the harmful professional working conditions with acids, alkaline substances and dust. Among the risk factors are some behavioral habits to keep different objects in the mouth and unhealthy diet habits of individuals such as alcohol, tobacco, usage of products with high concentration of acids, or sugars that can provoke carries and can lead to the extractions.

Aim of the study. The purpose of our study was to determine the advantages and disadvantages of prosthetic treatment of partial edentulism III-rd by class Kennedy by PFM fixed partial dentures (porcelain fused metal).

Materials and methods.. For our purpose, 21 articles were revised and analysis of advantages and disadvantages of III-rd class by Kennedy rehabilitation by porcelain fused to metal fixed partial denture was made.

Results. In the revised articles, the highest incidence of edentulism was Kennedy class III and it varied from 41.1% to 56.7%, prevailing on the maxilla. Among the advantages of porcelain fused metal fixed partial dentures we would like to mention: the low cost, preservation of periodontal integrity of abutments, stabilization, restoration of the lost supporting structures and relatively easy fabrication and modification. As disadvantages of this method were marked out the difficulties in maintaining of oral hygiene, undue load on abutment teeth, sometimes changes, or dislodgement of the molar bands and plaque accumulation that can cause periodontal damage.

Conclusions. Taking into consideration the economic point of view and duration of treatment results, treatment by porcelain fused metal fixed partial dentures of III rd class by Kennedy should be named as one of the most suitable and widely used method.

Key words: treatment, partial edentulism, porcelain fused metal bridges

387. PREDICTABILITY OF IMPLANT-SUPPORTED RESTORATIONS IN THE ESTHETIC ZONE

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Background. The goal of modern dentistry is to create the most aesthetical dental restoration for the patient. It is essential to use tools and techniques that allow to make a predictable dental implant-based restoration. The specialty literature proposes a variety of indices that help doctors to evaluate the complexity of clinical case and predictability of future restorations. Some of them are: Peri-Implant and Crown Index [PICI[®]], Implant Crown Aesthetic Index [ICAI[®]], Pink Esthetic Score/White Esthetic Score [PES/WES[®]], Pink Esthetic Score [PES[®]], and SAC ITI Tool (Straightforward, Advanced, Complex).

Case report. Six patients (aged between 27 and 43 years old) have been included in the research. All cases were 1 and 2 implant restorations in the esthetic area of the upper jaw. From 6 cases 3 were with missing central incisors 2 with lateral incisors and 1 canine. The SAC classification was applied in order to assess the predictability of treatment which included 12 parameters required for assessment prior to implant placement. Each parameter was scored from 1 to 3, the closer to value 3, the higher is the esthetic risk and lower the success rate. The other score applied after provisional crown insertion was the Furhauser pink esthetic score (PES) which includes 7 parameters for evaluation of treatment results in time. The score was periodically assessed at 6 and 12 months after placement of prosthetic restorations.

Conclusions. The use of assessment tool prior to surgery provides a vision of mostly common causes of esthetic failures in single tooth restorations in the esthetic area of maxilla. The esthetic risk parameters help the doctors to understand the risk and possible ways of its diminishing even before of implant placement. The PES/WES scores provide an insight into the predictability of prosthetic restoration which is a key factor of treatment planning in order to obtain both surgical and prosthetic approaches for optimal results.

Key words: prosthetic restoration, Pink Esthetic Score, White Esthetic Score.

DEPARTMENT OF ODONTOLOGY, PERIODONTOLOGY AND ORAL PATHOLOGY

388. DIRECT MORPHOLOGICAL RESTORATION OF THE LATERAL TEETH

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Introduction. Direct restoration of the teeth, using the light-curing materials, is an essential branch of modern dentistry. This aspect has not only aesthetic but also functional connotations. The aesthetic restorations become ideal and are being improved only by refining the old

techniques and introducing the new ones. Moreover, for the lateral group of teeth it is required to respect the proportionality between the mechanical properties of the restoration materials (fracture and abrasion resistance as well as the polymerization contraction) and the aesthetic properties. In order to avoid side effects such as fracture or the appearance of secondary caries, it is necessary to restore each lost tissues with materials that have the same structural and mechanical properties. Biomimetic restoration technique, using short fiber-reinforced composite as substructure, is a recommended alternative to direct restoration and can be reliably used for coronary restorations of large cavity teeth, in areas with low resistance conditions.

Aim of the study. The evaluation and optimization of the restoration technique on the lateral group of teeth, using modern materials and methods.

Materials and methods. In order to carry out the study, the research sample included patients between the ages of 18 and 50, these patients had various forms of dental pathology in the lateral group of teeth, of carious origin and their complications. Only the patients with limited or extended interest of the dentine layer lesions were selected.

Results. As a result of the systematization of the clinical-theoretical information and the practical application of modern solutions for the direct restoration of the lateral teeth, we came to the conclusion that by using short fiber-reinforced composite as a base with a superficial conventional composite restoration, structural and mechanical properties, as well as the failure rate through the combination of materials has been improved, compared to those of restorations from conventional composite materials as a whole. The correct realization of the restoration technique of the lost tissues with materials that have similar properties, allows us to approach as much is possible to the biomimetic correspondence between the restoration materials and the anatomical aspect of the natural tooth.

Conclusions. As a result of the analysis of the proposed method, we have come to the conclusion that the correct realization of the restorations regarding the picking of the material and the appropriate working technique will lead to excellent results. The light-cured short fiber-reinforced composite has become a required material for its efficiency in restorative dentistry, which allows the restoring of large class I and II cavities in the posterior tooth group, where is a high level of masticatory pressure, due to its increased hardness. Their use not only presents aesthetic and lasting results over the years, but also reduces the working time and makes the practitioner's work easier.

Key words: Direct dental restorations, biomimetic materials, fibre-reinforced composite.

389. TEETH WHITENING - THE ALTERNATIVE IN DENTAL AESTHETICS

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Introduction. Since centuries, the physical appearance of people has been a major importance in society. Nowadays, the patients are willing to invest a lot of money to have a brilliant smile, and to have more self-confidence.

Aim of the study. This paper aims to examine the alternative whitening and the motivational values of the patients. The study is based on data obtained by treatment of the 25 patients aged

between 20 and 35 years old, including 18 women (72%) and 7 men (28%). All patients were divided into 2 groups: first group were the patients who choose home teeth whitening; and the second group were the patients who choose office teeth whitening, First patients group included 18 persons. Second group included 7 persons. The algorithm for investigation of patients included: clinical examination, photostatic examination, vitality and sensitivity tests of the teeth. Following the study, each patient received adequate treatment, choosing one of the proposed whitening methods.

Materials and methods.. Home whitening was accomplished through individual trays and gel "Opalescence PF" (Ultradent, USA) - 15%. Office whitening was performed using the "Opalescence Boost" - 40%. The most powerful aesthetic effect is obtained by the method of whitening in the office, using the "Opalescence Boost", being important the active substance concentration, also duration of whitening sessions and overall duration of the whitening treatment.

Results. Whichever method is chosen, whatever home or office whitening, treatment caused color modifications at all 25 patients included in the study. It is very important to use proper whitening materials, patients training and their supervision by the doctor.

Conclusions. Teeth whitening are required so as women and men, first being students, single persons and people with higher education. Currently there are many whitening methods and choice of any of them will give positive results, assuming the task for the dentist to choose the best method for each patient individually.

Key words: whitening, Opalescence PF, Boost

390. USE OF FLUID COMPOSITE MATERIALS IN DENTAL RESTORATIONS, FRONTAL TEETH

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Introduction. Flowable resin composites were developed and introduced to the world as a revolutionary restorative biomaterial in 1996. These first-generation flowable formulations were designed to simplify the placement technique and to expand the range of clinical applications for resin composites. These biomaterials were marketed by manufacturers for a wide range of applications, which included all classifications of anterior and posterior composite restorations, block-out materials, composite repair, core buildup, crown margin repair, cavity liners, pit and fissure sealants, anterior incisal edge repair, preventive resin restorations, provisional repair, tunnel preparation restorations, adhesive cementation, restoring enamel defects, air abrasion cavity preparations, and void repairs in conventional resin composite restorations.

Aim of the study. Comparative study of adhesion to hard dental tissues of fluid composite materials by dental recontouring microscopy in areas of dental tissue-composite interaction

Materials and methods.. A clinical study has been performed in three patients with different clinical diagnosis: abrasion, dental crown fracture, restoring enamel defects. These patients were treated using standard treatment and using fluid composite materials.

Results. The obtained results allowed us to systematize data regarding the particularities of the direct aesthetic restorations, their harmonious integration into the entire dento-maxillary system, as well as a faithful imitation of the natural aspect

Conclusions. In conclusion we can say that fluid composite materials have a good thermal insulation, low level of wear and handling, easy application and restore the natural appearance of the tooth. In designing and achieving a treatment plan, compliance with aesthetic criteria plays an important role in achieving the best and lasting outcome.

Key words: Direct aesthetic restorations, fluid composite, abrasion, crown fracture, enamel.

391. THE IMPORTANCE OF THE PERIODONTAL STATUS IN THE DIAGNOSIS OF PERIODONTAL DISEASE

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Introduction. Periodontal disease is one of the current problems of modern dentistry. Despite the efforts made by the researchers and clinicians to identify the etiological factors, the pathogenetic mechanism of debut and evolution of the periodontal disease, this issue remains an enigma. As a result, the treatment and prophylaxis techniques do not have the expected outcome. The individual assessment of the periodontal status plays a major role in diagnosing and carrying out the treatment plan of periodontal disease. The latter represents a quantification of the health status or the affliction of the superficial (gum) or the deep (radicular cementum, desmodontium, alveolar bone) marginal periodontium, which support, maintain and secure the tooth in the dental alveolus.

Aim of the study. To establish a correct and complete diagnosis, based on a complex examination, including the assessment of the periodontal status.

Materials and methods.. The study comprised 27 patients with periodontal disease (gingivitis, marginal periodontitis with varying degrees of affliction), of which 11 women and 16 men between the ages of 19 and 68 years. The patients received a complete clinical and paraclinical examination, as well as having their periodontal status assessed, which was then recorded in the zmk-Bern University type periodontal record, used at both the diagnosis and reassessment stage. The values of the periodontal status of the patients, together with the radiological images (OPG, CT, CBCT) were the basis for establishing a complete and correct diagnosis.

Results. The examination of the patients with periodontal disease using the data from the periodontal status allowed us to establishment a correct diagnosis and to outline the complex treatment plan for all the patients in the study. At the same time, it is the most efficient way of monitoring the patients over time. Thus, periodontal disease was stopped and stabilized in all the patients, who are then registered and monitored.

Conclusions. The values of the periodontal status have an important role in the diagnosis, the development of the treatment plan, monitoring the evolution of the disease, as well as in the health education of the patients with periodontal disease.

Key words: Periodontal status, Periodontal disease, Radiological examination.

392. ASSESSMENT AND RECOVERY OF PATIENTS WITH CHRONIC PERIODONTITIS THROUGH AN INDIVIDUALIZED APPROACH

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Introduction. Periodontitis is a chronic multifactorial inflammatory disease associated with dysbiotic plaque biofilms and characterized by progressive destruction of the tooth-supporting structures. It is a major public health problem due to its high prevalence, as well as because it may lead to tooth loss and disability, attesting that, periodontitis accounts for the most teeth extractions being performed, thus leading to a substantial proportion of edentulism, and masticatory dysfunction. By negatively affecting chewing function and aesthetics, it becomes a source of social inequality, which damage the quality of life. The primary features of the disease imply visual inflammation, the loss of periodontal tissue support, manifested through clinical attachment loss (CAL) and radiographically assessed alveolar bone loss, furcations, presence of periodontal pocketing, gingival bleeding, and possible tooth mobility. Thus, detecting and assisting early reversible stages, in order to provide an conservative treatment, should be prioritized to rescuing compromised teeth in advanced stages of periodontitis, which as a fact, results in significant dental care costs, has a negative impact on general health, and doesn't necessarily ensue a successful result.

Aim of the study. The analysis of the possible efficient methods to be used in assessing the clinical manifestations of chronic periodontitis and recovery of patients with chronic periodontitis, through individual treatment adaptation, towards a maximized positive outcome.

Materials and methods.. A clinical study has been performed on a group of 9 patients, 5 of them female and 4 male, aged between 24 and 56 years old, which, following a thorough examination according to the clinical criteria assigned to chronic periodontitis, 4 were diagnosed with a slight chronic periodontitis, 3 were diagnosed with the moderate type and other 2 with severe chronic periodontitis. Thus, after determining the extension of the inflammation, the clinical attachment loss, probing depths, presence of bleeding on probing, assessing the radiographic bone loss, each patient followed a professional hygienic treatment, under medicinal remedies, comprising of individual procedures, namely supra and subgingival scaling, root planing, gingival curettage and, guided bone and tissue regeneration through a periodontal flap approach procedure in the severe forms of periodontitis.

Results. Following the research and clinical praxis, patients were observed for a period of 6 months. In four patients, those diagnosed with a slight periodontitis, after receiving treatment and educational information upon oral hygiene at an early stage, the inflammation has stopped from progression and partially reversed. In patients with moderate type, it has notifiable subsided, oral health and gingival aspect improved, while gingival bleeding is occasionally present. Two patients with severe periodontitis, showed a positive outcome, with significant decrease in tooth mobility, substantial tissue support as the general oral health improved and inflammation stopped progressing.

Conclusions. Individual treatments applied at the moment of each patients distinct condition, diagnosed properly according to the set clinical criteria, both in early and advanced stages, had positive results, without complications, the outcome being more positive when assessed at an

early stage, eliminating major masticatory dysfunctions, additional costs implied, and quality life damage.

Key words: chronic periodontitis, recovery, conservative treatment, individual treatment approach.

393. ACUTE PULPITIS. ETIOLOGY AND TREATMENT METHODS

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Introduction. Dental pulp inflammation (pulpitis) as a result of different local and general factors is positioned through the first places in dental pathologies. The etiology of pulp inflammation is bacterial, a mixed microbial flora, aerobic and anaerobic, living in a true symbiosis. These germs mainly originate from the buccal cavity, from the salivary environment, having as an entrance gate a penetrating carious lesion. Pathogens that can cause acute pulpitis may be: 1. External: A) Physical B) Chemical C) Bacterial 2. Internal: A) Dysmetabolism B) Avitaminosis C) Systemic diseases D) Endogenous intoxication. Microorganisms can invade the dental pulp directly, via the pulpo-periodontal and hematogenous pathways. The untreated pulp inflammation may progress into a degree of destruction of the adjacent tissues, evolving from one form to another, and in case the tooth is not treated the patient frequently reaches a dental extraction. At the same time, the pulpitis can be an outbreak of infection for the whole body. Early diagnosis and application of appropriate treatment methods minimizes the possibility of a complication. Thus, the deficient, superficial knowledge of this subject is unacceptable.

Aim of the study. The analysis of the etiological factors favoring the appearance of acute pulpitis and treatment methods to prevent possible complications.

Materials and methods. A clinical study has been performed on a group of 12 patients, 3 of them female and 9 male, aged between 18 and 35 years old. Of the total amount of 12 treated teeth, 3 were canines, 4 molars and 5 premolars. Following the clinical and paraclinical examination, there were diagnosed 9 patients with acute diffuse pulpitis and 3 patients with acute focal pulpitis. During the treatment we applied the direct capping method or vital pulp extirpation in acute focal pulpitis and the method of vital pulp extirpation in diffuse acute pulpitis.

Results. Following the study and the practical application, each patient was monitored for a period of 6 months. From those 12 people, 9 patients denied any charges after the endodontic treatment, while 3 people treated by the biological method had a moderate sensitivity in the tooth region for up to 5 days. Also, the relapse was observed on 2 patients who were treated by the direct capping method.

Conclusions. The method of vital pulp extirpation resulted in a higher efficiency of the treatment of acute pulpitis, compared to the conservative method. By the surgical method of treatment - positive results had been obtained, without relapses or complications.

Key words: acute pulpitis, direct capping, treatment, vital extirpation.

394. MODERN TECHNIQUES IN RESTORING THE FRONT GROUP OF THE TEETH

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Introduction. Currently aesthetic problems are often present in stomatology. The causes which make the patient to consult the dentist are troubles at the level of the frontal teeth which browbeat the patient to smile. Direct tooth restoration is one of the most frequently applied methods in treatment of anterior odontal coronal lesions. Applying of the material in layers and returning of the tissues of the dentine and enamel make the composite materials of the last generation to return exactly the aesthetic and of the dental function.

Aim of the study. Studying, systematizing and implementing the techniques and procedures for restoration of the front teeth respecting the principles of proportionality and aesthetic functionality.

Materials and methods.. A clinical study has been performed on a group of 15 patients, 9 of them female and 6 male, aged 15 to 45. Each of them reported disorder of the aesthetics of the frontal teeth. Treatment protocol : clinical and radiological examination, oral cavity hygiene, getting dental impressions, getting the silicone matrix, determining the color of the future restoration, local anesthesia, isolation of the working area, preparation of the hard dental tissues, application of the etching gel and adhesive system, stratified application of the composite material, restoring the contact points, adaptation of the restoration in occlusion, finishing and polishing of the restorations.

Results. The practical use of silicone matrix demonstrates clinical efficiency of this technique, while the possibility of form appreciation in common with the patient is an important step for accepting the final restoration. The palatal surface and incisal edge are restored with high precision. Meanwhile the final correction are minimal.

Conclusions. In order to create a perfect harmony between the parameters and the criteria of the facial and dental aesthetics, it is necessary to take into account the anatomical characteristics of the face and the teeth because they are individual to each person and require a different approach for each patient.

Key words: aesthetic, odontal coronal lesions, frontal restoration, composite materials, silicone matrix

DEPARTMENT OF PEDIATRIC ORAL AND MAXILLOFACIAL SURGERY AND PEDODONTICS ION LUPAN

395. CARIES RISK ASSESSMENT AT CHILDREN DURING THE DENTO-MAXILLARY ANOMALIES CORRECTION PERIOD

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Introduction. The basic concept of individualized prophylaxis is the recognition of high risk patients and the adjustment of individual behavioral risk factors by establishing an effective preventive treatment. For the constructive prevention of dental caries in children during the correction period of dento-maxillary anomalies (DMA), the complex study of individual cariogenic risk factors is currently progressing.

Aim of the study. Assessment of the dental caries occurrence risk in children during the correction of tooth-maxillary anomalies, using the Cariogram software.

Materials and methods.. The case-control study was performed on 56 children of different age (between 12 and 18 years). The research group 1 included 14 children with undergoing orthodontic treatment, particularly with a fixed system. Group 2 - 14 children undergoing orthodontic treatment with mobile devices and the control group 3 - 14 children with DMA at the planning stage of orthodontic treatment. To determine the morbidity degree through dental caries, the frequency index of dental caries and the COA index have been estimated. For the assessment of oral hygiene, the OPI index (Orthodontic Plaque Index, Heintze et al., 1998) has been approximated. The risk of tooth decay has been evaluated using the Cariogram software. The study complied with ethical requirements, therefore requesting the written consent of the parents or the legal representative of the children. Epi Info software was applied to analyze the statistical data.

Results. For most children during the DMA correction period, the simultan action of several caries risk factors was identified, the most essential being: poor oral hygiene, Mutans Streptococcus concentration $> 5 \times 10^5$ UFC/ml of saliva and reduced self-cleaning capacity. The average frequency of very high caries risk in children with DMA was 5.0 times higher compared to children in the control group. The probability of avoiding the appearance of new cavities in children with fixed orthodontic appliances was $29.21 \pm 7.44\%$, as opposed to $74.22 \pm 8.17\%$ estimated in the subjects within the control group.

Conclusions. For children during DMA correction the chances of avoiding the appearance of new cavities are 2.12 times lower, as opposed to conventionally healthy children, which reflects the increased susceptibility to dental caries. Thus, the study demonstrated the importance of individualized prediction of dental caries in children for the selection of preventive measures targeted on identified cariogenic factors.

Key words: dento-maxillary abnormalities, dental caries, caries risk, risk factor, Cariogram.

396. THE INCIDENCE STUDY OF PULPITIS IN THE TEMPORARY TEETH.

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Introduction. The inflammatory process of dental pulp represents a major problem in pediatric dentistry because of an increasing number of affected children, complications and difficulty of treatment. The pulp of temporary teeth is more sensitive to inflammatory changes of carious invasion than the permanent ones. Inflammatory changes become irreversible in a short period and extend within the root and periodontal area. However, the early loss of temporary teeth may lead to temporary or permanent occlusal, masticatory, aesthetic and phonetic disorders.

Aim of the study. The integral research on the evolution of pulpitis in temporary teeth monitoring a wide range of clinical requires.

Materials and methods.. In conformity with the purpose and research objective towards the problem, undergo through examination 9 patients with pulpitis of temporary teeth. The research was done within the department of IMSP CSMC, mun.Chisinau, pediatric OMF Surgery and pedodontics Ion Lupan. Researches were executed within the period September 2019 - January 2020. Subject research also included and took into consideration evolution of pulpitis and sex membership.

Results. After the detailed study of the subjects was determined the presence of pulpitis on temporary teeth with acute evolution on 3 children, however chronic evolution of pulpitis within temporary teeth were estimated to be around 6 patients. Between the chronic evolution of pulpitis all the patients presented the same form - the simple one, while the acute evolution was determined in two forms - diffuse purulent form in 2 cases and diffuse serous form in 1 case.

Conclusions. Across the conducted study the occurrence of subjects with acute evolution of pulpitis on temporary teeth accumulated roughly 33,3%, on the other side with chronic evolution summed around 66,7 %. Pulpitis incidence of temporary teeth was observed at boys around 22,2%, while on girls 77,8%.

Key words: Temporary teeth, acute pulpitis, chronic pulpitis

397. MANAGEMENT OF THE SOFT TISSUES OF HEAD AND NECK AFTER DOG BITES AT CHILDREN

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Background. Even though the injuries of head and neck are mostly produced after car accidents (in 80% of cases), dog bites which are 90% of all animal bites are frequent at children. Bite wounds have always been considered complex injuries contaminated with unique polymicrobial inoculum. Because wounds of the extremities constitute the majority of bite cases, most relevant studies have focused on the wound infections rate in these areas. However, a substantial subset of dog bites are located on the face, where fear of potential disfigurement is a concern and the associated psychological consequences can be devastating. (K,Stefanopoulos). 25% of the victims of dog bites are under age 6, and 34% are aged 6 to 17. In small children, most bite wounds are on the head and neck; in older children and adolescents, most are on the limbs. There have been estimated a total of 44,000 facial wounds due to dog bites each year in the USA. In the Republic of Moldova there is also a significant number of 740 to 100,000 persons, which is three times less than the real number of dog bites wounds. The injuries that result after these bites need a complex treatment and hospitalization. There is a large range of lesions and infectious complications that can result after dog bites, therefore studying the surgical methods and the complex pharmaceutical treatment is of a paramount importance. The interdisciplinary management is recommended in dog bites inflicted to the head and neck at children. The antibiotic prophylaxis is used only in high risk of infection, depending on the type, localization, animal species and patient characteristics. Many of bites appear at children that are familiar to the dogs that attack them, therefore knowing the epidemiology of them (scientific support, provocation, type of injury, risk factors) could help in

spreading the information to parents, teachers and the general public to understand the behavior of dogs over the vulnerable persons.

Case report. Patient X, male, 3 years. Diagnosis: Multiple injuries in the head and neck region with tissue defect of 2/3 in the skin part of the head in occipital parietal front with cortical exposure. Treatment: 1. Primary surgical treatment 2. Boring of cortical in the occipital parietal front for stimulating the granulation tissue 3. Revision and extension of the wholes for stimulating the granulation tissue 4. Grafting the granulated wounds of the head with split grafts 5. Excision of skin for grafting 6. Split skin grafts on small granulated zones 7. Excision of skin for grafting 8. Wound dressing 9. Debridement of skin and subcutaneous tissue 10. Treatment in resuscitation / intensive care the evolution of the disease with improvement. No particularities. The patient's condition upon discharge is satisfactory. Internment date: 20th of September 2019 Discharge date: 24th of November 2019

Conclusions. 1. Due to the small stature of the children up to 5 years, most of the injuries resulting from the aggression of the dogs return to the level of the head and neck. The traumatic lesions of the given region represent a surgical emergency due to the localization of organs with vital functions such as the eyes, nose, mouth, ears, etc. but also to the aesthetic aspect of the Maxillofacial region. 2. One of the most effective methods of restoring the massive defects of the scalp after dog bites in children is the exposure of the diploid by multiple trepidation of the scalp. After about 4 weeks the granulation tissue from the holes begins to cover the defect, forming a favorable vascular bed for the skin grafts. 3. Dog bites management should include measures to ensure wound care as close as possible to the accident. These actions should be directed towards identifying and minimizing the risk of infection or other serious complications. Surgical treatment includes general measures of local therapy, as well as anti-infectious prophylaxis. Interdisciplinary collaboration is recommended to ensure the best aesthetic and functional result. 4. Implementing prevention strategies (educating owners and training dogs, monitoring threatening behavior and tackling future safety measures) can be helpful in developing policy that can reduce this type of preventable trauma.

Key words: dog bites, children, head and neck, soft tissue, surgical treatment, infection, prophylaxis, scalp defects, statistics, prevention

DEPARTMENT OF ORTHODONTICS

398. ORTHODONTIC FORCES USED IN PATIENTS WITH PERIODONTAL DISORDERS

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Introduction. Orthodontic treatment of patients with periodontal disease is one of the most difficult tasks in dentistry. In adult patients, the altered periodontal health might result in teeth loss, altered function and compromised aesthetics. Most of these patients present a variety of problems, which include teeth overeruption, migration, traumatic occlusion, irregular interdental spacing, consumed occlusal surfaces, irregular occlusal planes and loss of vertical

dimension. The measures applied must ensure the prophylaxis and interception of periodontal lesions.

Aim of the study. The aim of this study is to evaluate the practical effectiveness of the use of weak and well controlled orthodontic forces.

Materials and methods. For this study were selected 10 patients with many dentomaxillary abnormalities, associated with periodontal aspects. The mean age of the patients was 18 ± 60 years. Patients were selected and are included in the study according to the orthodontic address. Patients underwent orthodontic treatment with modern fixed appliances - polygregated systems pre-fitted with brackets, slot 0.22x0.28. The point of application of the orthodontic force was applied more apically. Some thermo-titanium nickel-titanium springs from the 7th generation, with smaller diameter and cross section, support slot 0.022 were used. Longer use of superelastic springs was also achieved at each stage of treatment.

Results. In 7 patients there was an increase in the periodontal healing level, and in 3 patients there was an increase in the periodontal condition. Post-orthodontic persistence of periodontal inflammation is attributed to non-compliance with oral hygiene, maintaining the cause - bacterial plaque.

Conclusions. Evaluation of the periodontal condition in orthodontic treatment determined clinical variations, depending on the treatment stage, periodontal medication, applied forces, oral hygiene status. In conclusion, a precise calculation of the biomechanics of the orthodontic forces, their points of application, the resistance and the duration of application lead to a favorable result.

Key words: Periodontics, dento-maxillary anomalies, orthodontic forces, complex orthodontic treatment.

399. ANGLE CLASS I MALOCCLUSION. PRINCIPLES OF DIAGNOSIS AND TREATMENT

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Introduction. Nowadays the importance of the smile is being extraordinarily important. The smile influences our mood, self confidence, thoughts and social relationships. Therefore, owners of an aesthetic smile are more prone to smile than those with dento-alveolar disharmonies. Following this aspect, one of the main reasons for the orthodontic treatment is the aesthetical one. Angle class I malocclusions are characterized by dental alignment disharmonies, when skeletal involvement is minor, presenting a normal antero-posterior intermaxillary relationship.

Aim of the study. Etiopathogenic study, correct diagnosis and treatment of Angle class I malocclusion.

Materials and methods.. A study was performed on 12 patients who had different degrees of severity of dento-maxillary crowding. For diagnostical purpose the following investigations were done: panoramic radiography (OPG), cephalometric and model analysis. An individual treatment plan was done for each patient. Two methods of treatment were selected: removable and fixed orthodontic appliances.

Results. The treatment method was chosen according to severity degree and patient's age. Thus, 8 patients of 12 were treated through fixed appliances, while the other 4 persons were using removable orthodontic appliances. Cooperative patients during the growth period and that have no severe teeth crowding, have wore removable appliances for 9 to 12 months, while the others were treated through fixed adhesive system within about 1,5 years.

Conclusions. Patients that wore removable appliances, followed by fixed appliances, achieved their aesthetic objectives, maximum intercuspation and a functional occlusion.

Key words: disharmony, Angle class I malocclusion, diagnosis, treatment, aesthetic, study, crowding, removable appliances, fixed appliances, dental alignment.

400. APPLICATIONS OF PALATAL MICROIMPLANTS FOR ORTHODONTIC TRACTION OF IMPACTED CANINES

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Introduction. Maxillary impacted canines can be considered a complex problem that often occurs in clinical practice. Canine is the second most frequently impacted tooth in the dental arch after the third molar. Maxillary impacted canines represent a common and challenging clinical situation. Fixed orthodontic treatment has been largely utilized but with the drawbacks of a prolonged treatment time and the possibility of intrusion of the adjacent teeth based on the law of action and reaction. Both of this inconvenience can be overcome through means of a Skeletal anchorage, using microimplants, known as TAD (Temporary Anchorage Devices).

Aim of the study. The aim of this study is to evaluate the practical effectiveness of micro implants in the "T- zone", for the management of maxillary impacted canines.

Materials and methods.. For this study were selected 15 patients with maxillary impacted canines, CBCT was done for all of them. Thirteen patients had one upper canine impacted palatally, and two patients had both upper canines impacted palatally. None of them had previous orthodontic treatment or active periodontal disease in the beginning of treatment. The 6-8 mm micro-screws with bracket-like head with the slot dimension of 0.22 mm were inserted using the screw driver, with a torque wrench to check that the tightening torque does not exceed 50 Newton. In the same surgical procedure the impacted canines were exposed with its application of an orthodontic eyelet.

Results. In 13 patients the mini screws had a long-term success, 2 patients had lost 1 of two microimplants. The mean traction duration was been 5 months with a range from 3 to 7 months, depending on the depth of the impaction, root position and angulation. After canines traction was done, the microimplants were used for anchoring the segmented elements in order to align the canines in the arch.

Conclusions. Midpalatal TADs can be used as absolute anchorage for difficult tooth movement such as traction of the impacted canines. Thus, the microimplants showed itself capable of supporting the orthodontic load alone, throughout the decompression phase of the impacted canines, thus avoiding the transmission of permanent invasive vertical forces, thereby preserving it from undesirable effects.

Key words: Palatal microimplants, maxillary impacted canines, skeletal anchorage, T-zone.

PHARMACY SECTION

DEPARTMENT OF PHARMACOLOGY AND CLINICAL PHARMACY

401. THE PARTICULARITIES OF HYPERTHYROIDISM MEDICATION

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Introduction. Hyperthyroidism is an autoimmune disorder of the thyroid gland, that appears to genetically predisposed persons and is characterized by increased function and diffuse enlargement of the gland, accompanied by the development of symptoms of thyroid toxicity and the impairment of the functional status of different organs and systems. In Republic of Moldova, thyroid pathology ranks 2nd place in frequency among endocrine disorders, giving first place to diabetes. Of the total number of endocrine patients in 2012, 1/3 are with various forms of thyroid pathology. Compared to 2008, by 2012 the number of patients with thyroid disease doubled. The proportion of hyperthyroidism constitutes 13.5%, and that of the thyroid toxic adenoma - 1.5% of the number of patients with thyroid pathology

Aim of the study. To study the current bibliographic sources, to determine: theories related to the emergencies of hyperthyroidism, the etiopathogenesis of hyperthyroidism, incidence in the Republic of Moldova, therapeutic principles for drug and surgical therapy. in addition, analyzing the observation files of the patients with hyperthyroidism, with the systematization of the obtained results.

Materials and methods. Analysis of data from the observation files of 40 patients hospitalized in the "REPUBLICAN CLINICAL HOSPITAL", Endocrinology Unit, during 2019 year.

Results. Women suffer more often from hyperthyroidism (82.0%), which is explained by the frequent exposure to stress factors and hereditary predisposition, data that correspond to the specialized literature. The patients manifested the following symptoms: weight loss, heart palpitations, dyspnea, restlessness, hot flushes, general weakness, photophobia, emotional lability and global ocular abnormalities. For inhibition of thyroid hormones synthesis all patients were given Tiamazolium (Tyrosol, Mercazolil).

Conclusions. 1. Hyperthyroidism is a condition characterized by excess thyroid hormones. They are more common in women aged 20-40, but men in endemic areas can also get sick. 2. All patients underwent hyperthyroidism of different degrees and different clinical forms, with the characteristic complications of the disease: endocrine ophthalmopathy, hypertension, hepatitis.

Key words: Hyperthyroidism, thyroid gland, medication.

402. GENERAL CONCEPTS ON HIV/AIDS PHARMACOTHERAPY AND PROFHYLAXIS

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Introduction. The infection with human immunodeficiency virus (HIV) is a contagious, human-specific disease. The virus progressively destroys host defense mechanisms and determines, after a variable period of time, acquired immunodeficiency syndrome (AIDS). The evolution is lethal, so far there is no curative etiological treatment. Worldwide, by 2017 year, there were 36.9 million cases of HIV infections, 17.5 million were women and 2.3 million were children under 15 years old. Currently, after more than 35 years, more than 30 million people have died from HIV infection worldwide

Aim of the study. To analyze epidemiological characteristics, etiopathogeny, diagnostic methods and treatment principles of HIVinfection/AIDS.

Materials and methods. Analysis of clinical material collected from the observation sheets of 50 patients hospitalized in Antiretroviral treatment unit of Dermatology and Communicable Diseases Hospital according to the following criteria: incidence, clinical signs and treatment of patients with HIV infection.

Results. From a total of 50 patients, the highest incidence is for men, 60%, compared to 40% for women. Also, according to the age criteria, most patients were aged between 41-50 years (32%) and 31-40 years (28%). In Republic of Moldova, the most common route of contamination with HIV infection is the sexual way (34%). There is a decrease for the number of patients infected by the use of injectable drugs, compared to the last years of the last century, however this remains to have a large share (22%). A number of patients received an association of 2 or even 3 antiretroviral preparations simultaneously like: Nevirapine + Zidovudine + Lamivudine.

Conclusions. 1. HIV infection is one of the most widespread infections, being responsible for the death of over 25 million people, in the last 30 years, through AIDS, the final phase, complicated with various infections. 2. Human immunodeficiency virus (HIV) targets the immune system and weakens the body's defense and surveillance mechanisms against infections, as well as against certain types of cancer. The virus damages the function of immune cells and destroys them, and the infected people gradually become immunodeficient. 3. HIV can be suppressed by antiretroviral therapy (ART), combinations that include two, three or more antiretroviral drugs (ARV). ARVT does not cure HIV infection, but prevents viral replication in the body of an infected person, helps the immune system to recover and fight against other infections.

Key words: HIV, AIDS, immunodeficiency, antiretroviral therapy

403. THE MANAGEMENT OF THE PATIENTS WITH THE ATOPIC DERMATITIS IN CHILDREN

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Introduction. Atopic dermatitis (AD) is a chronic, inflammatory skin condition which affects millions of people worldwide. It is most commonly seen in children. In the Republic of Moldova the incidence of AD in children is increasing from 11.9 in 2014 to 19.6 per 10,000 children in 2019. More and more children are affected with this disease, which is why mothers

should be properly informed about the impact of atopic dermatitis and the methods of its prevention.

Aim of the study. To establish the clinical features and pharmacotherapeutic modalities of atopic dermatitis in children.

Materials and methods. The analysis of 57 clinical cases of atopic dermatitis in children with duration of 2 years was performed in ambulatory conditions.

Results. Out of the group of 40 children with atopic dermatitis, to whom the diagnosis was established based on the Haniffin and Raika criteria, it was established that 17 (42.5%) belong to the extrinsic subtype of atopic dermatitis, and a number of 23 (57.5%) of patients belong to the intrinsic subtype. 11 cases with AD are associated with other allergic diseases (27%), respectively 8 are with allergic rhinitis (20%), and 3 with bronchial asthma (7.5%). Topical treatment is a compulsory and important part of complex DA therapy. The most used topical preparations were: creams with mometasone, clobetasol and fluticasone. Therapy with sedative and nonsedative antihistamines (generations 1 and 2) presents basic therapy in atopic dermatitis in children. The most commonly used was I generation antihistamines such as: clemastine (26%), chloropyramine (42%) and ciproheptadine (32%), which are prescribed mainly in acute forms of AD. In subacute and chronic forms, second-generation antihistamines are usually used. The most commonly used drugs are: loratadine (64%), desloratadine (21%), cetirizine (28%) and levocetirizine (14%). Systemic antihistamine therapy, with both sedative and non-sedative effects, is the basic therapy for AD in children. The emollient remedies and contemporary curative cosmetics used are products from Bioderma, Avene, ISIS Pharma etc. They are used daily, not less than 2 times per day. It is administered as a whole with glucocorticoids and during the remission period, in the absence of the symptoms of the disease.

Conclusions. The study determined that 42.5% of cases belong to the extrinsic subtype of atopic dermatitis, and 57.5% of patients belong to the intrinsic subtype. Ensuring adequate antiallergic management in combination with avoiding the adverse action of allergic factors contributes to reducing the incidence of atopic dermatitis morbidity in children.

Key words: dermatitis, allergy, management, children.

404. METFORMIN FOR WEIGHT CONTROL IN PATIENTS WITH SCHIZOPHRENIA

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Introduction. People use antipsychotic medications to manage schizophrenia as well as other disorders. The most bothersome side effect, especially for women is the weight gain associated with the use of antipsychotic medications. Currently there is no first line medication for weight control with antipsychotics. The mechanism of the weight gain by antipsychotics is unclear, however, it might be due to blocking of central histamine 1 (H1) or serotonin (5HT_{2c}) receptors. It is suspected that naltrexone, an opioid antagonist, suppresses the desire for high fat foods via acting on D₂ receptors. Metformin, however, is involved in appetite suppression and slowing of gastric emptying via promoting glucagon-like peptide-1 secretion. Thus, both these mechanisms might be able to counteract or prevent weight gain associated with antipsychotics use.

Aim of the study. To determine whether metformin is more effective in weight loss after the use of antipsychotic medications.

Materials and methods. PubMed database was used to search meshterms “antipsychotic, weight gain, metformin,” which were combined with “and” to result in 14 articles. After the addition of the filter “published within the last 5 years” was added, 5 articles were left. The meshterms “antipsychotic, weight gain, naltrexone” were combined with “and” to result in 3 articles. There were no articles with both drugs together. Embase database was searched from 1996 till 2017 week 02. Mapped key words “antipsychotic, weight gain, naltrexone” were filtered with randomized controlled trials within the last 5 years and combined with “and” which resulted in one article. Similarly key words “antipsychotic, weight gain, metformin” resulted in 5 articles. Two articles were not on the correct topic.

Results. Metformin is shown to significantly reduce weight in schizophrenic patients by about 3 kg (2 RCTs; n=148, 45 women; and n=72, 32 women). Second study shows that metformin reduced initial body weight greater than was clinically significant (>7%, p=0.003). Naltrexone showed significant weight loss of 3.4 kg (CI=-5.16, -1.65, p=0.001) (1 RCT; n=24). No studies compared metformin and naltrexone in one trial. Metformin was shown to have more additional health benefits.

Conclusions. Both metformin and naltrexone show statistically significant weight reduction in patients taking antipsychotics. However, metformin appears in more studies than naltrexone and shows additional health benefits like reduction of triglycerides. Thus, metformin appears to be more effective in weight control for women with schizophrenia. Pharmacists might be able to recommend metformin as an adjunct to the antipsychotic therapy.

Key words: metformin, schizophrenia, weight control

405. THE GENERAL CONCEPTS OF GASTRO-DUODENUM ULCER PHARMACO- AND PHYTOTHERAPY

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Introduction. Gastro-duodenum ulcer is a break in the inner lining of the stomach, the first part of the small intestine, or sometimes the lower esophagus. The most common symptoms of a duodenal ulcer are waking at night with upper abdominal pain (often described as a burning or dull ache), belching, vomiting, weight loss, or poor appetite. Worldwide, prevalence of the disease is estimated at 6-14% of the adult population and for Republic of Moldova is 100-120 sick persons per 10,000 population

Aim of the study. Highlighting epidemiological factors, mechanism of development and treatment methods of gastro-duodenum ulcer

Materials and methods. Analysis of data from the observation files of 60 patients hospitalized in Internal Diseases Department no.1 of "Clinical Hospital of the Ministry of Health", Gastrology unit, during 2019. The evaluated parameters were: gender, age, smoker or non-smoker, place of living, basic diagnosis (type of ulcer developed), the etiology of the disease, complications, treatment, recommendations for discharge

Results. The analysis of the distribution of cases of gastro-duodenum ulcer by sex showed the predominance of the male (62%) compared to the female (38%). The total number of patients

diagnosed with gastric or duodenal ulcer disease rate was distributed as follows: 90% of patients developed duodenal ulcers and 10% - developed gastric ulcers. The treatment included: spasmolytics (100%), chemotherapeutics (80%), proton pump inhibitors and antibiotics (67%), H₂ receptor antagonists (37%), antacids (22%), gastroprotectives (11%). The other medicinal remedies were indicated for symptomatic purpose: hemostatics (12%), prokinetics (5%), sedatives (58%)

Conclusions. 1. Gastric and duodenal ulcer is a defect of the gastric or duodenal mucosa, which goes far beyond the muscular mucosa and is surrounded by an acute or chronic inflammatory infiltrate. 2. The most important factors that modulate the epidemiology of gastric and duodenal ulcer are genetic predisposition, *Helicobacter Pylori* infection (decreasing) and consumption of NSAIDs (increasing). 3. In our study, men are more often affected, because they are more frequently subjected to risk factors, such as: active and passive smoking, alcohol use, food additives and psycho-emotional pressure.

Key words: gastro-duodenal ulcer, gastro-intestinal tract, digestive disorders

406. THE CONTRIBUTIONS TO THE STUDY OF GOUT MEDICATION

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Introduction. Gout is a chronic condition caused by the disorder of uric acid metabolism, which is manifested clinically, first of all, by acute relapsing arthritis and the formation of subcutaneous gouty nodules (tofi), formed from accumulations of microcrystals of monosodium urate monohydrate. In the Republic of Moldova, gout is determined in 2.5% of the population with asymptomatic hyperuricemia, but the morbidity varies from 0.3 to 2.1%.

Aim of study. The elucidation of clinical features and contemporary principles of pharmacotherapy and monitoring of gout medication.

Materials and methods. We investigated 74 patients with different clinical forms of gout that were hospitalized during 2019 in the Rheumatology Unit of the Republican Clinical Hospital.

Results. The prevalence by age is found in men between 51-60 years old (37.8%) and among women at 61-70 years old (4.1%). Gout is most often reported among men (93.2%), which is related to alcohol and food abuse (meat, beef, tomatoes); traumatic events, hunger and stress. According to the observation sheets, patients most frequently present a period of illness and/or worsening of the health status in the last years: 33.8% - up to 5 years and 31% - 6-10 years. There is a higher incidence of chronic tophi gout (56.8%) and idiopathic chronic gout (35.1%), which makes us conclude that patients addressed after specialized medical help in the hospital only in case of worsening health, other gout attacks. being monitored by the family doctor in ambulatory conditions. For the treatment of acute gout attacks and for their prevention more frequently is used uricodepressive treatment with: Alopurinol (95.9%), Colchicine (32.4%), Canefron (47.3%), analgesic treatment with antipyretic analgesics (39.2%), nonsteroidal anti-inflammatory drugs (87.8%) and corticosteroids (16.2%). The average bed days spent by the patients in the Rheumatology Unit is 8 days. According to the observation sheets, it was established that during the winter-spring period, 58.11% of the total number of patients were undergoing treatment in hospital, which can be caused by the worsening of the disease during the cold period or by the oscillations of the temperature during spring.

Conclusions. The results of study indicate a higher incidence of chronic tofacial gout (56.8%) and idiopathic chronic gout (35.1%). Patients hospitalized with chronic tofacial and idiopathic gout were predominantly on medication with uricodepressants (95.9%), antipyretic analgesics (39.2%), nonsteroidal anti-inflammatory drugs (87.8%) and steroids (16.2%) to improve their health.

Key words: gout, medication, uricodepressants, analgesics.

407. THE STUDY OF THE CLINICAL EVOLUTION AND PHARMACOTHERAPY OF MIGRAINE

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Introduction. Migraine is the most common neurological disorder, affecting about 12-15% of people. In R. Moldova, migraine occurs in about 10% of the population, most commonly among women in the age group from 20 to 35 years. Migraine has an ancient history, being known since Neolithic. However, it is surprising that the effective anti-migraine drugs have, until recently, been limited in number. Only in recent decades, great steps have been taken in the development of anti-migraine drugs.

Aim of study. To determine the clinical features of migraine and its treatment methods.

Materials and methods. The study of clinical cases with migraine was carried out during the period 2019-2020 in hospitals and in the community pharmacies, with 133 research subjects, 28-55 years old.

Results. From the total number of investigated 133 patients, 36 were women (58.1%) with a mean age of 41 years old. 47.3% patients showed the presence of migraine without aura and 22.7% - migraine with aura, 11.5% had rare episodic migraine, 48.3% - frequent episodic migraine, and 29.2% - chronic migraine. The study determined that patients suffered more than 5 attacks in 84% of cases. moderate or severe pain intensity in 73% of patients and associated symptoms, such as nausea and/or vomiting; photophobia and phonophobia in 67% of patients. Analgesics are the medication of choice in the treatment of mild-moderate migraine attacks, with administration of ibuprofen 200-800 mg (37%) and of preparations with the fixed combination of acetylsalicylic acid, paracetamol, peopiphenazone, ergotamine, caffeine etc., such as: Nomigren, Migretil, Antinevralgic, which are more effective in the treatment of acute migraine than each compound separately. The hospital treatment includes reduced number of specific preparations for migraine, but are present drugs from various pharmacological groups, with nootropic, cerebroprotective, anxiolytic and antidepressant actions. This fact can be explained by the presence of comorbidities in association with the migraine attacks, which requires complex neurological treatment and not just the specific antimigrainous one.

Conclusions. In light-medium migraine pharmacotherapy, simple analgesics, such as ibuprofen and paracetamol, are recommended, combined with the fixed association anti-migraine drugs, anti-emetics and avoidance of triggering factors. In the hospital treatment of migraine are administered preparations from various pharmacological groups with nootropic, cerebroprotective, anxiolytic and antidepressant actions, for the purpose of treatment and comorbidities.

Key words: migraine, evolution, pharmacotherapy, analgesics.

DEPARTMENT OF PHARMACEUTICAL AND TOXICOLOGICAL CHEMISTRY

408. VALIDATION OF ANALYSIS METHODS IN DRUG QUALITY CONTROL

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Introduction. An important role in the pharmaceutical product quality assurance system plays the analytical control of raw materials, intermediates and products. Analytical methods begin to be applied at the phase of development and testing of drugs, production technologies and continue to be used in serial release of pharmaceutical products. This control should ideally be carried out in accordance with the specifications, developed and validated during drug development. This ensures that the quality specifications can be applied both to pharmaceutical products used to establish the biological characteristics of the active substances and to dosed drugs. At the same time, materials presented in the US Pharmacopoeia “Validation of Compendial Methods” and documents of the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) must be well studied and taken into consideration. After the completion of the examination, the quality of all subsequent series will be evaluated only on the basis of these specifications.

Aim of the study. The analysis of special literature and evaluation of the basic aspects in the field of validation of analysis methods.

Materials and methods. Advanced complex bibliographic study using such data and bases as GMP training workshop, studbooks of Metrology Methods in Pharmaceutical Analysis, Validation of Compendial Methods, etc. Were evaluated over 150 bibliographic sources.

Results. Validation is the most important stage in the development of analysis methods, that evaluates their suitability and authenticity. Analytical control of drugs or certain ingredients in a drug is necessary to guarantee their safety and efficiency throughout their shelf life, including storage, distribution and utilization. Validation is the process of experimental confirmation that the analytical method provides the necessary and reliable information about the object of analysis and is suitable for practical use.

Conclusions. Increasing quality requirements of drugs demands increasingly advanced methods of analysis, and therefore there is an increasing need for validation of all analytical methods as one of the elements of validation of the entire process of drug production.

Key words: Drug, analysis methods, validation.

409. METHODS FOR TESTING THE BIOAVAILABILITY OF EAR DROPS

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Introduction. A very important pharmaceutical parameter in exercising a maximum pharmacological effect is the bioavailability of medicines, which represents the quantity and

speed of disposal of the active substance by a pharmaceutical form, its absorption in the body, its transport to the site of action and its biological response.

Aim of the study. Advanced bibliographic study on the diversity of methods used in the study of bioavailability of ear drops.

Materials and methods. 87 abstracts and scientific articles from the Cochrane Electronic Library, MEDLINE databases, CAB Abstracts © and SciSearch © The Thomson Corporation.

Results. The bibliographic evaluation of the sources studied has highlighted the importance of the basic physico-chemical characteristics of the drug substances incorporated in the pharmaceutical form, which directly influence the bioavailability. For example: drugs with high molecular weight or high electrical charge cross the blood-brain barrier (inner ear membrane) with passive difficulty, as well as protein-binding substances, while high liposolubility of drug substances facilitates passage. It has been established that there are several methods used to investigate the bioavailability of active principles from ear drops, using Franz diffusion vertical cells. Animal skin is often recommended for preliminary evaluations of new formulations as a membrane for yield. Animal models used to replace human skin are domestic pigs, rats, mice, guinea pigs and snakes. Thus, 26% of the evaluated sources propose the use of the skin of newborn pigs. In most articles (68%) it is proposed to use the skin on the inner side of the pig's ear, as results are comparable to those obtained on human skin due to similar thickness, vascular anatomy and arrangement of collagen fibers in the dermis of the ear, as well as due to the identical glycosphingolipid and ceramide content. The bioavailability assessment is done by determining the concentration of the substances (usually by chromatographic or spectral methods) at equal intervals in the yield medium.

Conclusions. Bioavailability is extremely important for the preformulation and drug formulation process, and the correct selection of the *in vitro* determination method facilitates the correlation of results with those obtained *in vivo*.

Key words: Bioavailability, ear drops, test methods.

410. CONTRIBUTION TO THE STUDY OF THE QUALITY OF DRINKING WATER SOURCES IN THE SOUTHERN DISTRICTS OF THE REPUBLIC OF MOLDOVA

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Introduction. Water use is multiplied. The closest concern is for drinking water for which the insurance conditions are quite special, are regulated by the state by norms and standards. The present paper presents data and information on the quality of drinking water sources in the southern districts of the Republic of Moldova such as Cahul, Taraclia and Cantemir.

Aim of the study. Control and monitoring of water quality in order to verify that the water distributed to the consumer is in accordance with the quality requirements and does not create risks for the population's health.

Materials and methods. Laboratory data obtained by physico-chemical and microbiological analysis, normative acts regarding drinking water and its quality.

Results. As a result of the laboratory investigations of the water samples taken from the water sources in the southern districts of Moldova (Cahul, Cantemir, Taraclia), most of them

correspond to the sanitary regulations, and in some cases they challenge the non-compliance of the sanitary norms with the physico-chemical and microbiological indices.

Conclusions. The sources that provide the drinking water in the southern districts of the Republic of Moldova have to be monitored by taking water samples and laboratory analysis. If the laboratory analyzes indicate water that does not meet the drinking conditions, its use for human consumption will be prohibited, especially for children, as well water treatment measures should search for other sources of guaranteed drinking water that meet the sanitary norms. Water is a precious and common good to mankind, because of its importance for the health of the population and the development of society protective measures are required.

Key words: Drinking water, quality, south, population health.

411. REDOX VS NEUTRALIZATION TITRATIONS FOR DETERMINATION OF ASCORBIC ACID'S CONCENTRATION IN FOOD SUPPLEMENTS

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Introduction. Ascorbic acid is required for the optimal activity of several important biosynthetic enzymes and it is therefore essential for various metabolic pathways in the body. The recommended dosage for men is 90 mg per day and for women 75 mg per day. During pregnancy, it takes about 85 mg per day while breastfeeding 120 mg per day. Tobacco destroys vitamin C in the body, because of which smokers should consume up to 200 mg per day. However, there are several categories of the population, which cannot provide optimal amounts of all necessary nutrients through the food. In these situations, the use of supplements can help. European regulation provides that any supplement of ascorbic acid may be one of five compounds: L-Ascorbic Acid, Sodium-L-Ascorbate, Potassium-L-Ascorbate, Calcium-L-Ascorbate, and L-Ascorbyl-6-Palmitate. According to the legislation, in the Republic of Moldova, the state quality control of food supplements is not mandatory, being based on the quality control of producer. In this context, it becomes appropriate to prove the content of ascorbic acid in food supplements.

Aim of the study. Evaluation of redox and neutralization methods of quantitative determination of ascorbic acid in food supplements.

Materials and methods. Electronic databases: Medline, Cochrane, Embase and Springer were accessed using "vitamin C analysis", "ascorbic acid assay" and "vitamin C quantitative determination". Also, the search was conducted by using printed pharmaceutical and chemical journals. 108 bibliographic sources were eligible for our study.

Results. For the determination of ascorbic acid, a wide range of techniques and methods is available, each with its own advantages and disadvantages. In most of the articles (65%), alkalimetric method was used in order to determine the content of ascorbic acid in food supplements. It is an acidic compound due to the facile ionization of hydroxyl group on carbon 3 ($pK_a = 4.17$) while the hydroxyl group on carbon 2 is much more resistant to ionization ($pK_a = 11.79$). Also, most frequently (35%) the iodometric method was applied. As the iodine is added during the titration, the ascorbic acid is oxidised to dehydroascorbic acid, while the iodine is reduced to iodide ions.

Conclusions. Both alkalimetric and iodometric methods were applied successfully for the determination of ascorbic acid in food supplements. The iodometry was more accurate than

alkalimetry in determination of ascorbic acid from samples that contain additional acids, which do not interfere with the oxidation of ascorbic acid by iodine.

Key words: Ascorbic acid, alkalimetry, iodometry, food supplements.

412. APPLICATION OF DISSOLUTION TEST IN RESEARCH OF THE IN VITRO BIOAVAILABILITY OF DRUGS

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Introduction. In the pharmaceutical industry, dissolution may be defined as the amount of drug substance that goes into solution per unit time under standardized conditions of liquid/solid interface, temperature and solvent composition. Dissolution is also the only test that measures in vitro drug release as a function of time. Dissolution of drug in a solid dosage form (e.g. tablet or capsule) is composed of at least two consecutive steps as well; liberation of solute/drug from the formulation matrix followed by dissolution of the drug in the liquid media. Thus, in order to achieve dissolution of drug from a dosage form, the cohesive properties of the formulated drug and intrinsic physicochemical properties of the drug molecule play a key role. Prediction of in vivo behavior often requires the use of in vitro dissolution methods reflecting the in vivo gastrointestinal conditions.

Aim of the study. Evaluation of the impact of the dissolution test and of the determinants in the research of the bioavailability of drugs.

Materials and methods. 83 abstracts and articles from systematic research in the Cochrane Electronic Library and MEDLINE databases.

Results. Following the analysis of the evaluated bibliographic sources, the in vitro release from the analyzed formulations was found to be dependent mainly of the composition of the dissolution media. Selection of the most appropriate medium for routine testing is based on stability of the analyte in the test medium. For some water-soluble drugs, pH of the dissolution medium has less effect on dissolution, but surfactants added to the dissolution medium will increase drug solubility significantly. Even though the media simulate most relevant characteristics, such as concentration of solubilizing substances, buffer capacity, pH and the ability of drugs to dissolve, they are not a one-to-one copy of gastric or duodenal juice. The universal analytical separation method with acceptable selectivity and sensitivity in most analyzed sources is high performance liquid chromatography (HPLC), with transfer to the more efficient ultra-performance liquid chromatography (e.g. UPLC (Waters)). HPLC is often the method of choice even though it is less time efficient than UV/VIS due to the fact that during early phase development multiple formulations and strengths are screened and potential interferences from the formulation matrix or medium or even degradation of the active can be separated easily by HPLC.

Conclusions. The dissolution test is a valuable *in vitro* technique for predicting the in vivo behavior of pharmaceutical forms with peroral administration. All the factors of influence on the transfer process are in strict dependence on the physicochemical properties of the active principles and of the excipients.

Key words: Dissolution test, *in vitro* bioavailability.

413. DETERMINATION OF METRONIDAZOLE AND MICONAZOLE NITRATE IN A MIXTURE BY SPECTROPHOTOMETRIC METHOD

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Introduction. Metronidazole and miconazole nitrate are substances with antiprotozoal, antifungal and antibacterial contents. For quality control of these drugs, in particular, quantitative determination, the European Pharmacopoeia recommends the HPLC method.

Aim of the study. Development of an express method for the quantitative determination of a mixture of metronidazole and miconazole nitrate based on the spectrophotometric method.

Materials and methods. In the work was used an Agilent 8453 single-beam spectrophotometer from Hewlett Packard, USA. As standard (control) substances, the pharmaceutical substances metronidazole and miconazole were used, the content of the main substance in which was not lower than 98%.

Results. The dependence of the absorption intensity in the ultraviolet (200-400 nm) and visible (400-760 nm) spectral regions in various solvents was studied.

Conclusions. The obtained spectra demonstrated the possibility of analysis of the studied substances in the joint presence.

Key words: Metronidazole, miconazole nitrate, spectrophotometer.

DEPARTMENT OF DRUGS TECHNOLOGY

414. THE LEGAL SUPPORT OF QUALITY OF TECHNOLOGICAL PROCESSES IN THE PHARMACEUTICAL INDUSTRY OF THE REPUBLIC OF MOLDOVA

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Introduction. Of particular importance in ensuring the quality of technological processes and medicinal products is the legal support - all the legal acts and norms adopted in the vision of promoting and ensuring quality at all stages of production and distribution. According to ISO, quality requires all the performances and characteristics of a product or a care service determined by the ability to have a direct or implicit consumer satisfaction. The legal regulation of the quality of the technological processes in the pharmaceutical companies ensures the correspondence of the composition indicated on the label with the real one, by observing all the legal norms in force regarding: a. creation of the internal management system (ISO 9001); b. optimization of drug manufacturing (GMP); c. creation of the pharmaceutical quality system (ICH Q).

Aim of the study. The aim is to raise awareness of the correct understanding of the concept of quality, to support the implementation of the quality management systems of technological processes.

Materials and methods. As bibliographic sources served the Internet, the official data presented by amed.md. The research methodology used: analytical, statistical, comparison, etc.

Results. The European legal regulations in the field studied represent respectively the standards of the ISO 9000 series, as well as the guides regarding their application in the ISO 10000 series (ISO 10006, for project management, ISO 10007 for management configuration, ISO 10013 for quality documentation, ISO / TR 10014 for quality economic efficiency management, audit and training standards). The quality management system of a pharmaceutical company is directly influenced by the national legal regulations, its objectives, by the pharmaceutical products delivered to the market and by its specific practices; as a result, quality systems vary from company to company. In the Republic of Moldova in 2013 the Order of the Ministry of Health, Labor and Social Protection, Nr. 309 of 26.03.2013 regarding the approval of the Rules of good manufacturing practice of medicines (GMP) for human use. In 1994, within the resolution on industrial competitiveness for the European Union, the Council of Ministers of the U.E. approved the initiative on the elaboration of a European quality promotion policy. On 01.01.2019 GMP certified 7 drug manufacturers in the Republic of Moldova.

Conclusions. Due to the fact that there can be a mutual conditioning between the health of the citizens and the quality of the processes in the production of medicines and services, the state cannot remain indifferent to the way in which the problems of the quality of the products and services are solved, whether their realization is done in the private or state sector.

Key words: Quality, legal support, technological process.

415. THE ROLE OF APICLE PRODUCTS IN OINTMENTS FORMULATION

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Introduction. Now Propolis-containing preparations are widely used in medical practice, due to their bactericidal, antiviral, antifungal, anti-inflammatory, analgesic, regenerative, antioxidant properties. Propolis is a natural preparation, the most powerful anti-infectious drug known, which destroy 21 bacteria, 9 species of parasitic fungi, 30 types of viruses (including their varieties). The development of new pharmaceutical forms containing propolis for the treatment of dermatological diseases is an important research direction in the health branch for Republic of Moldova. According to data estimated by WHO, the prevalence of skin diseases remains a current problem due to the rather high statistical index.

Aim of the study. The formulation and efficacy of the preparations with propolis extract in the treatment of skin diseases for adults and children. Completing the information level questionnaires of the population on the efficacy of bee products in medicine.

Materials and methods. Synthesis and study of the data of the specialized scientific literature, the results of the population interview, as well as the documentation with magistral prescriptions of the University Pharmaceutical Center (CFU) "Vasile Procopisin".

Results. Propolis is called a "cocktail" of healing substances, gathered from the buds and from the bark of poplars, of birch trees, chestnuts, willows, ash trees, blueberries and some species of fruit trees. In CFU "Vasile Procopisin" ointments were made with propolis extract based on different excipients: Vaseline, lanolin, polyethylene glycols. The pharmaceutical factors that influence the kinetics of the release of the active substance from excipients were analyzed. Population questioning (30 questionnaires) demonstrated the use and efficiency of propolis extract preparations in the treatment of skin diseases and other diseases, as well as a high degree of

knowledge of different preparations. Currently, dermatologists from the Health Institutions of the Republic of Moldova prescribe for the treatment of skin diseases soft medicinal preparations with propolis extract, both in the form of industrial preparations and compounded medications.

Conclusions. The use of semi-solid preparations with propolis extract gives effective results in the therapy of skin diseases for adults and among children. This offers a higher hope of using natural preparations as compared to those of synthetic origin. The treatment of skin diseases is a complicated complex, which includes an environment of preparations for internal and topical use.

Key words: Skin diseases, propolis extract, atopic dermatitis.

DEPARTMENT OF SOCIAL PHARMACY *VASILE PROCOPISIN*

416. PHARMACISTS ROLE IN MEDICAL DEVICES: FROM DIAGNOSIS TO MONITORING OF THERAPY

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Introduction. Medical devices, like medicines and other health technologies, are essential for patient care: at the bedside, at the urban and rural pharmacy or health clinic, or at the large, specialized hospital. Pharmacists hold a unique competency set and use their skills to help patients manage their medication and medical device for optimal outcomes. Like other healthcare professionals, pharmacists are often required to deliver highly technical language to patients in a manner that they understand. This applies both to medicines and medical devices, many of which are sold in pharmacies.

Aim of the study. Identifying pharmacist role and pharmaceutical services in medical devices, availability of diagnostic test in community pharmacies and, post-diagnosis monitoring and counselling in 62 community pharmacies from Republic of Moldova.

Materials and methods. Have been conducted a descriptive observational cross-sectional study, using quantitative data collection through a semi-structured questionnaire in 62 community pharmacies and pharmacy from health centers: 33 from rural and 28 from urban area. A study was conducted through a telephone questionnaire, regarding the availability of medical devices and price of them in pharmacies, as well as the monitoring of therapy after diagnosis. Nonresponse rate was 25.8%, from which urban pharmacy – 19% rural – 81%.

Results. Patients may be subjected to a variety of diagnostic procedures at different points in their journey of medical care, for example in health facility, in the workplace, and increasingly in community pharmacies. Essential diagnostics are those that satisfy the priority health care needs of the population and are selected with due regard to disease prevalence, public health relevance, evidence of utility and accuracy and comparative cost-effectiveness. Diagnostic procedures can be roughly classified according to two main types: directly investigative procedures, which require the presence of the patient for the duration of the procedure tests on samples. These tests are performed on samples such as blood, urine and faeces, which are removed from the patient and tested in a laboratory. When such tests are conducted in pharmacies, the pharmacist has an obvious role, but even when tests are conducted elsewhere, the pharmacist can be a useful source of information about the procedure and what it may mean for the patient. In that study have been evaluated availability of following diagnostics: blood

pressure monitor, dipsticks for glucometer, glucometer, H. pylori test, pregnancy test, and HIV test. The results were as follows: pregnancy test – 85%, blood pressure monitor – 62%, dipsticks for glucometer and glucometer - 52%; H. pylori test – 10%; HIV test – 2% (only in one chain pharmacy in urban area). Pharmacy services provided in pharmacies related with medical device investigated was following: measure of blood pressure- 76%, measure of glycaemia – 2%, counselling on teenage pregnancy – 0%.

Conclusions. The availability of medical devices in community pharmacies is directly correlated with the location, being much higher in the urban area. However, pharmaceutical services related to these devices are practically not provided in the Republic of Moldova, except for blood pressure measurement.

Key words: pharmacist, community pharmacy, medical devices, tests, counselling.

417. EVALUATION EQUITY IN ACCESS TO MEDICINES USING CONCENTRATION CURVE IN REPUBLIC OF MOLDOVA

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Introduction. Equitable access to medicines is one of the essential challenges in developing and transitional countries. It is stated that about one-third of the populations around the world do not have equitable access to essential medicines. The prices are often unaffordable for majority of population. This has made medicines the second largest family expenditure after food and has made the cost of the medicines unaffordable for a huge number of people. Up to 50% of medicines are inappropriately prescribed or dispensed and up to 50% are used incorrectly by patients. This leads to significant wasted resources, the potential to drive the development of drug resistance and to poor health outcomes. Many patients, especially the poor, rely on the informal sector for their health care needs including medicines, while respective vendors have little or no pharmacy training.

Aim of the study. Assessment the equity in access to medicines in Republic of Moldova through health system perspective.

Materials and methods. Have been conducted a descriptive cross-sectional study of international practice on strengthen policy framework on equitable access to medicines; secondly has been done a quantitative study using concentration curve on the population of Republic of Moldova regarding the access to medicines.

Results. Equity is one of the fundamental principles and right of people in the healthcare system worldwide. According to World Health Organization, equity is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically. Health inequities therefore involve more than inequality with respect to health determinants, access to the resources needed to improve and maintain health or health outcomes. From the previous authors study have been disclose the following access indicators and barriers to medicines with different access incentives (AI): geographical accessibility (8-AI), affordability (7-AI), availability of medicines (8-AI) and acceptability (2-AI). The two key variables underlying the concentration curve are the access to medicines variable, the distribution of which is the subject of interest, and a variable capturing living standard against which the distribution is to be assessed. The health variable

must be measured in units that can be aggregated across individuals. This is not necessary for the living standards measure, which is used only to rank individuals from richest to poorest. First step in concentration curve analysis is to score the indicators of access based on discomfort and annoyance caused by unavailability of medicines. The higher scores of indicators determine the power of influence on access to medicines. These results will be correlated with the following factors: demographic, age, gender; socioeconomic factors: ethnicity (Caucasian and non-Caucasian), housing condition, level of education, income (monthly family income per head), classified per quintiles.

Conclusions. The present study provides insights into the socioeconomic factors associated with access to medicines in Republic of Moldova. Knowledge about inequalities in access to medication is important for health policies to contribute to reducing inequalities in health care services use and will be investigated more deeply.

Key words: equity, population, access to medicines.

418. DEVELOPMENT OF ECONOMIC MODEL FOR ASSESSMENT OF POTENTIAL SIGNIFICANCE OF PHARMACIST INTERVENTIONS

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Introduction. Pharmacists contribute to reduce the number of medication errors during medication review. Assessing the significance of pharmacist interventions (PIs) is essential to demonstrate the added value of pharmacists. Methods and tools for assessing the potential significance of PIs are diverse and their properties are questionable.

Aim of the study. Assessment of significance of pharmacist intervention for health system to obtain additional resource in clinical pharmacy practice.

Materials and methods. A systematic review was performed in the databases PubMed (1982 – March 2020), MEDLINE/EMBASE (2000 - March 2020), (1999 - February 2013), Cochrane library (1999-March 2020) and Scientific Electronic Library Online (SCIELO) (2001- 2019) in order to collect studies using tools for assessment of potential significance of an individual PI. Have been used two groups of keywords as the main search: drug-related problems and pharmacist interventions.

Results. Adverse drug events are the major problems relating to patient safety and wellbeing. They are associated with increased rate in morbidity and mortality, extended hospitalizations, and higher costs of care. Reviewing literature have been determine that it is possible to classify the approaches of assessing the significance of an individual PI into 3 main types: approach 1 - the evaluation of actual consequences of drug related problems (e.g., actual severity of harm); approach 2 - the evaluation of actual consequences after performing a PI and following-up the patient (e.g., actual clinical outcomes); or approach 3 - the estimation of potential significance of a PI. Term “actual” is used as meaning the entity that has appeared in the patient, while the term “potential” referred to the situation in which the possibility that the entity could appear in the patient existed. The conceptual models of Donabedian suggested that the quality of healthcare interventions could be assessed through three types of indicators related to “structural features”- appropriate resources and system design; “process of care”- the method by which health care is provided; and “outcome”- the consequence of the health care provided,

this model is called “structure-process-outcome”. The Kozma model, place outcomes into three categories - economic, clinical, and humanistic Outcomes (ECHO model) which characterize the value of pharmaceutical services. According to risk model, risks are analyzed by combining severity of consequences and probability in the context of existing situation, in PI are evaluated medication errors. According to the basic model of pharmacoeconomics, the value of a PI considers both inputs and outputs of a PI compared to the absence of a PI. Inputs can be thought of as resources required implementing the PI. Outputs can be thought of as consequences of a PI, in form of clinical, humanistic, or process-related consequences. The difference between the cost of the original therapy and the new therapy gives the cost savings (or the increase in the cost of therapy). Cost avoidance refers to the prevention of additional health resources which are required to treat drug adverse events if a pharmacist has not intervened such as a hospitalization or a medical visit. Cost of implementation of a PI refers to the expenses of providing the PI such as cost of pharmacist’s time, phone calls.

Conclusions. Various structures and contents of tools for evaluation of impacts of PIs were highlighted. Majority of tools focused primarily on assessing clinical aspect and failed to detect other impacts.

Key words: pharmacist interventions, pharmacoeconomic model.

419. COMPETITIVE REGULATIONS IN THE PHARMACEUTICAL MARKET AND ITS CONSEQUENCES

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Introduction. Competition reflects a relationship of forces between the economic agents in the market of consumer goods and targeted services for the purpose of attracting the consumer, resulting in growth, diversifying and improving the quality of the offer and an increase in consumers' demand for goods consummation, being better informed about the existing consummation alternatives. The pharmaceutical market has some particularities: a) a large number of products with very strict demands on their characteristics, a long period of research and a large volume of resources needed for their conditioning; b) consumers of the pharmaceutical market are the health system and the sick people, usually economically disadvantaged. In order for the effects of competition to be predominantly beneficial, it is necessary to regulate it, thus ensuring a balance between the interests of businesses, drug users, increasing the number of products offered on the market and ensuring the performances that characterize them (harmlessness, effectiveness, quality and accessibility).

Aim of the study. Highlighting the regulations on the pharmaceutical market of the Republic of Moldova and their consequences on competition.

Materials and methods. The study is based on an analysis of the legal norms for regulating some activities related to the pharmaceutical activity and substantiating these rules in terms of the effects on competition as an element of the market.

Results. The pharmaceutical legislation of the Republic of Moldova contains several regulations that influence the level of competition in the pharmaceutical market. 1. Expansion and placement regulations of pharmacies. These regulations contradict the requirements of the market economy, examined from the point of view of the drug trade, but they were introduced

to ensure the interests of the consumer, to discourage excessive drug use and encourage their rational use, for economic agents to ensure minimum operating conditions and stimulate competition on the basis of ethical principles of drug assistance. 2. Data protection and protection of the introduction of pharmaceutical products. Data exclusivity is a form of intellectual property protection and allows pharmaceutical companies to use only their own clinical trial data for a predetermined period, as a measure of return on initial investments which led to the discovery of an innovative pharmaceutical preparation and the stimulation of new investments in this field. However, this measure conflicts with the declared priority of the authorities of the Republic of Moldova regarding the increase of prices for pharmaceutical preparations and the reduction of the financial burden related to the costs of medicines for citizens. Therefore, this regulation will contribute to the elimination of economic agents, producers of generic drugs, from the pharmaceutical market.

Conclusions. Competitive legislative regulations of the pharmaceutical market do not always reflect the provisions of the state policy in the field of medicine.

Key words: pharmaceutical market, competition, pharmacy placement, drug authorization, regulations.

DEPARTMENT OF PHARMACOGNOSY AND PHARMACEUTICAL BOTANY

420. *ACTINIDIA KOLOMIKTA* (RUPR. ET MAXIM.) PLANT – SPECIES WITH ORNAMENTAL, ALIMENTARY AND PHARMACEUTICAL VALUE

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Introduction. The genus *Actinidia* includes about 40-60 species. During the last 2 decades, the scientific community has realized a lot of scientific researches on chemical composition of different organs, especially on species *A. kolomitka*.

Materials and methods. The profile literature and databases on species *A. kolomitca* were evaluated and analyzed.

Results. Species *A. kolomitka* is a very long-lived, deciduous woody scrambling vine and creeper, which ultimately grows to 8–10 m, commonly known as variegated-leaf hardy kiwi which was mentioned as native to temperate mixed forests of the Russian Far East, Korea, Japan and China (Eastern Asiatic Region). At the beginning of XX century, this species was cultivated in England and North America as ornamental plant. Later, at the middle of century, the species began to be known as edible fruit producer, and at the end of it became the object of intense scientific researches. Scientific investigations were carried out under different aspects in different scientific centers: creation of cultivars and varieties resistant to environmental factors, cultivation technologies, chemical composition, nutritional and therapeutic value. A lot of cultivars were bred and cultivated in: Poland, Finland, Russia, Lithuania and Leetonia. This species was introduced in the collection of exotic plants of *Alexandru Ciubotaru* National Botanical Garden (Institute) in 1998 year. The world scientific researchers shown the useful chemical compounds in different organs of plant: ascorbic acid and other organic acids, pectins, tannins, sugars, vitamins P, Q, carotene in fruits; alkaloids – roots; lactones, flavonoids, saponins – leaves; and flavonoids such catechins – cork.

Conclusions. Today there are a lot of biological and chemical researches on variegated-leaf hardy kiwi. The most known chemical composition is in fruits and from aerial part of plant – leaves. The organs of species *A.kolomitka* can be in the Republic of Moldova the real new source of the raw materials for the biochemicals with nutritional and pharmacological value.

Key words: *A. kolomitka*, cultivation, chemical composition.

421. SOME SPECIES FROM GENUS *GALANTHUS* AS SOURCES OF ALKALOIDS WITH THERAPEUTIC VALUE

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Introduction. The genus *Galanthus* includes about 20 species. Six species of g. *Galanthus* are the most analyzed in the whole scientific laboratories according alkaloids content, including species *G. nivalis*, *G. elwisii*, and *G. plicatus*, which grow in the spontaneous flora of Moldova. The *Galanthus* species require complex biological and chemical studies for rational use in medicinal purposes.

Aim of the study. To highlight the therapeutically value of alkaloids from different species of genus *Galanthus*.

Materials and methods. The bibliography and databases on *Galanthus* species according chemical composition and medicinal use were evaluated.

Results. In the spontaneous flora of Moldova there are 3 species: *G. nivalis* (with large distribution), and other 2 with limited area, introduced in the Red Book of Moldova – *G. elwesii* (Bujac steppe) and *G. plicatus* (commune Capaclia, Cantemir). In Moldova, the only chemical study on the whole plant of *G. plicatus* was carried out by professor A. Nisteanu. In the last 2 decades, the world bibliography shown, that *G. plicatus* and the other 2 species (*G. nivalis* and *G. elwesii*) were objects of chemical researches according alkaloid content. The evaluated literature demonstrated that, there are known 6 alkaloids (galanthamine, nivalidine, tazettine, lycorine, hippeastrine and narwedine) from *G. nivalis*. Also, 6 alkaloids (lycorine, tazettine, hordenine, trisferidine, narwedine, hippeastrine) were mentioned in *G. plicatus*. In *G. elwesii* were found 12 alkaloids (galanthamine, sanguinine, leucotamine, methylleucotamine, galanthine, demethylgalanthamine, (E)-N-feruloyltyramine, 9-O-demethylhomolycorine, narwedine lycorine, hordenine, and hydroxyvittatine). Intense researches elucidated, that alkaloids from *Galanthus* have many pharmacological actions: galanthamine is used in treatment of Alzheimer's Disease, which block the neurodegenerative processes; hordenine – in kidney diseases with diuretic proprieties; haemanthamine and tazettine – in cancer (leukemia and carcinoma) as inducer of apoptosis in tumor cells, lycorine – in pathogen diseases as antiviral and antifungal remedies.

Conclusions. Alkaloids are compounds with rich therapeutic uses and those from *Galanthus* offer new possibilities of efficient treating some difficult diseases.

Key words: *Galanthus*, alkaloids, therapeutic value.

422. VEGETAL MEDICINAL PRODUCTS WITH RESINS

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Introduction. The resin-containing herbal medicinal products are very heterogeneous in origin and chemical composition. Therefore, these products have a wide therapeutic application in natural medicine. But, for efficient application of these vegetal medicinal products the complex modern researches are needed.

Aim of the study. To elucidate the vegetal medicinal products containing resins.

Materials and methods. The profile literature and databases on plants and vegetal products containing resins were analyzed and evaluated.

Results. A resin is a solid or highly viscous, sticky flammable organic substance which is insoluble in water. It represents a heterogeneous mixture of volatile oils terpene compounds (polymerized or oxidized) exuded by some plants as secondary metabolites. Plants secrete resins for their protective benefits in response to injury, insect or other pathogen attack. There are some groups of resins depending on the predominance of certain chemical constituents in different vegetal medicinal products: oleo-resins – *Terebentina communis*, *Colophonium*, *Terebentina Veneta*, *Balsamum Canadense*, *Balsamum Copaibae* and oleo-gum resins – *Gummi Myrrhae*, *Olibanum*, *Commiphora Mukul* (these 2 groups represent a mixture of resins, volatile oils with about 50-90% and gums as physiological or pathological exudations); proper resins as volatile oils distillation results from oleo-resins; balsams (the final products of destruction metabolism) – *Propolis*, *Balsamum Peruvianum*, *Benzoe Resina*, *Benzoe*; glycoresins (glycosidic esters of hydroxylated fatty acids with resin appearance), lactoresins (products with milky consistence, in contact with air – solid exudation), gumresins (hard resins mixed with gums, in contact with air – solidifies) – *Guaiaci Resina*, *Gutta-Percha*, *Jalapae Tubera et Resina*, *Scammoniae Resina*; and tars (the result of dry distillation of wood) – *Pix Liquida*, *Pix Pinaceae*, *Pix Abietinarum*, *Pix Cadi*, *Pix Juniperi oxycedri*, *Oleum cadini*, *Pix Betulina*, *Pix Betulae*.

Conclusions. The chemical natural group of resins is very complex according to the structure complexity, physical and chemical properties, also methods of extractions and therapeutic application. The vegetal medicinal products with resins are very diverse in chemical structure and composition, thus, they are very complicated in rational and efficient medicinal applications.

Key words: resins, classification, vegetal medicinal products.

423. ALGAE BIOTECHNOLOGY PRODUCTS AND THEIR APPLICATION IN THE FOOD AND PHARMACEUTICAL INDUSTRIES

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Introduction. The scientific community is constantly looking for new sources of natural chemical compounds to satisfy humanity worldwide with the need for quality phyto-medicines

drugs and balanced foods. During the last time, the scientists have the main subject for scientific research algae as potential producers of different useful biochemicals.

Aim of the study. To evidentiating the algae species as producers in biotechnological medicine.

Materials and methods. The profile literature and databases on microalgae as biotechnological producers in alimentary and pharmaceutical industries were evaluated and analyzed.

Results. Microalgae are sunlight – driven cell factories that are able to efficiently utilize CO₂ for the production of biochemicals such as polysaccharides, proteins, oils, vitamins, carotenoids and others. We evidentiating some algal taxons and application of their biotechnological products in pharmaceutical, cosmetic and food industries: *Aphanizomenon flos-aquae* produces mycosporine-like amino acids used as UV-screening agent; *Amphidinium sp.* – macrolides amphidinolide as antitumoral remedy; *Ascophyllum nodosum* – proteins used in cosmetics as anti-aging agent; *Chlorella sp.* – proteins, carotenoids, triglycerides and hydrocarbons as immune stimulator and free radicals scavenger; *Ch. zofingiensis* – astaxanthin as antioxidant remedy; *Ch. vulgaris* – biochemicals stimulating collagen production in the skin; *Cryptocodinium cohnii* dinoflagellates are used to produce docosahexaenoic acid; *Dunaliella salina* – B-carotene used as colorant, antioxidant, and cancer-preventive properties; *Nostoc flagelliforme* – pigments echinenone and myxoxanthophyll, allophycocyanin, phycocyanin and chlorophyll, 19 amino acids, vitamin B₁₂, cryptophycin used for the treatment of diarrhea, hepatitis, and hypertension; *Haematococcus pluvialis* – astaxanthin as antioxidant, used in nutraceutical, cosmetics, food and feed industries; *Spirulina platensis* – proteins, g-linolenic acid, vitamins, applicated as nutritional supplements, and infant formulas.

Conclusions. There is indeed a wide range of applications of microalgae in biotechnology and a great potential to further exploit the rich microalgal resources for various biotechnological applications in medicine. They are potential sources of high-value products, that may lead to the discovery of new generation of drugs.

Key words: microalgae, biochemicals, application.

424. THE ANTIOXIDANT PROFILE OF *SOLIDAGO* SPECIES

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Introduction. Antioxidants from natural sources are valuable bioactive compounds with well-demonstrated health potential for use in several human disorders. Some species of genus *Solidago* represent a rich source of natural compounds with multi-pharmacological properties, including phenolic compounds which express antioxidant activity.

Aim of the study. This paper provides a review of current studies on antioxidant activity of *Solidago* species. The main purpose of the research represents the evaluation of the correlation between phytochemical characteristics and antioxidative properties of *Solidago* species, and methods used for determination of their antioxidant activity.

Materials and methods. The bibliographic complex study was performed using the databases of scientific references: *PubMed*, *ResearchGate*, *GoogleScholar* and *ScienceDirect*.

Results. In recent years, great interest has been focused on researching and using natural antioxidants in medicine and pharmacy applications, due to their considerable biological value.

Several *in vitro* and *in vivo* studies revealed that the presence of phenolic compounds in plant extracts could be related with important biological properties, such as antioxidant, immunomodulatory, antimicrobial and anticancer activities. One of the main groups of biologically active compounds in *Solidago* species (goldenrods) is represented by phenolic compounds. According to the bibliographic review, the profile of phenolic compounds in *Solidago* species varies significantly in qualitative and quantitative composition and strongly depend on the species, plant part, ontogenetic development, geographic regions and environmental conditions. It was revealed the widely used methods for determination of phytochemical and antioxidant profiles of goldenrods, such as HPLC post-column assays, DPPH and ABTS radical scavenging activity assays, using the reference antioxidant Trolox. It was evaluated the principal radical scavengers in chemical profile of goldenrods: phenolic compounds of sp. *S. canadensis* and *S. virgaurea* differed with predominant antioxidant activity of rutin, chlorogenic and 3,5-dicaffeoylquinic acids; of sp. *S. gigantea* – quercitrin, chlorogenic and 3,5-dicaffeoylquinic acids; of sp. *S. graminifolia* – chlorogenic acid, quercitrin and hyperoside. Consequently, these compounds can be considered as antioxidant activity markers in phytochemical profiles of the corresponding *Solidago* species.

Conclusions. Several studies predict the importance of *Solidago* species as valuable raw materials of biologically active phenolic compounds, which express important pharmacological effects and possess antioxidant activity.

Key words: *Solidago* species, antioxidant activity, phenolic compounds.

425. THE TOTAL CONTENT OF POLYPHENOLS IN DRY EXTRACTS FROM DIFFERENT PARTS OF *HYPERICUM PERFORATUM* L.

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Introduction. *Hypericum perforatum* L. belonging to the family Hypericaceae is a reputed medicinal plant including a wide range of important phytochemical components. The major components are: chlorogenic acid, rutin, hyperoside, quercitrin, quercetin, pseudohypericin, hypericin and hyperforin. Crude extract and individual compounds of *H. perforatum* have been reported to exert antidepressant, antibiotic, and antitumor activities. Getting of dry extracts is beneficial in terms of rational use of plant products, because the extraction yield of biologically active compounds is maximum, which also determines their high therapeutic properties.

Aim of the study. Quantitative determination of total polyphenols and flavonoids in dry extracts from aerial parts, flowers and seeds of *H. perforatum* L.

Materials and methods. The aerial parts, flowers and seeds of *H. perforatum* L. have been collected from the spontaneous flora and shade-dried. The dry extracts have been obtained through fractional maceration method. It was used as solvent ethanol 80%. The concentration of the extracts was done with the rotative evaporator *Laborota* 4011. Quantitative analysis of the phenolic compounds was realized using the *Metertech* UV/VIS SP 8001 Spectrophotometer.

Results. The total of flavonoids and polyphenols in the dry extracts from flowers (57,10 and 105,04 mg/ml) is higher than in the aerial parts (38,24 and 42,63 mg/ml) and the seeds (14,04 and 32,39 mg/ml). The total polyphenol content was estimated using *Folin-Ciocalteu* reagent.

The concentration of flavonoids and polyphenols was calculated from a standard curve plotted with known concentration of rutin and gallic acid.

Conclusions. There is a need for further chemical study of plant materials *Hyperici flores* and *Hyperici semina*, therefore, these parts of the plant can be used as future vegetal products.

Key words: *Hypericum perforatum*, polyphenols, flavonoids, seeds.

426. VEGETAL PRODUCTS WITH HYPOCHOLESTEROLEMIC ACTIVITY

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Introduction. Cholesterol is a waxy, fat-like substance that's found in all the cells in our body. The body needs some cholesterol to make hormones, vitamin D, and substances that help in digesting. High-density lipoprotein (HDL), sometimes called „good cholesterol” carries cholesterol from other parts of the body back to the liver. HDL has been shown to have a variety of functions that may contribute to its cardiovascular protective effects, including the promotion of macrophage cholesterol efflux, anti-inflammatory, and antioxidative effects. Low-density lipoprotein (LDL) called „bad cholesterol” in a high level leads to the buildup of plaque in the arteries. LDL has now largely replaced total cholesterol as a risk marker and the primary treatment target for hyperlipidemia.

Aim of the study. The selection of vegetal products with hypocholesterolemic activity in light of the chemical compounds and usage in medicine.

Materials and methods. Analysis of bibliographical data concerning the selected vegetal products, and their products with hypocholesterolemic activity according to the chemical compounds.

Results. Medicinal plants can be used for the treatment and prevention of hyperlipidemia in conjunction with lifestyle changes. From medicinal plants with hypocholesterolemic activity, we mention those rich in polyholosides – *Lini semina* (*Linum usitatissimum* L.) with Detoxi Plus product; *Laminariae stipites* (*Laminaria saccharina* L.) with Laminarie, VD, Lamivit, No-Colest; steroid saponosides: *Dioscoreae rhizomata cum radicibus* (*Dioscorea nipponica* Makino) with Polisponinum and Diosponinum; bitter substances – *Taraxaci radices*, *T. herba*, *T. folia* (*Taraxacum officinale* L. Weber ex F.H.Wigg) with Antitox, Detoxiphyt, Normoponderol, and polyphenol compounds – *Cynarae folia* (*Cynara scolymus* L.) with Cholesterin products and *Cichorii herba* (*Cichorium intybus* L.) with Cortelax and Rhamnolax.

Conclusions. Medicinal plants can serve as accessible sources in the treatment of hypercholesterolemia due to vegetal products rich in polyholosides, steroid saponosides, bitter substances, and polyphenol compounds.

Key words: vegetal products, hypocholesterolemic activity.

427. THE TOTAL POLYPHENOL CONTENT IN AERIAL PARTS AND ROOTS OF *BERTEROA INCANA* L.

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Introduction. According to the bibliographic data, in the aerial parts of the *B. incana* L. species, there are various chemical compounds: apigenin, luteolin dihydroquercetin, gallic acid, neochlorogenic acid, due to which the plant material possesses antibacterial, spasmolytic and hypotensive properties. The plant is toxic due to its alkaloid content.

Aim of the study. Spectrophotometric determination of total phenolic and flavonoid content in plant materials *B. incanae herba* and *B. incanae radices*.

Materials and methods. Plant materials were collected from spontaneous flora in different periods (june, september, november). Dosage of total flavonoid and polyphenol was performed by the spectrophotometric method, using 70% ethyl alcohol as solvent. Optical density was measured at *Metertech* UV / VIS SP 8001 spectrophotometer at wavelengths 400 and 760 nm.

Results. The total phenolic contents (TPC) of hydroethanolic extracts of sp. *B. incana* L. were determined according to the *Folin–Ciocalteu* procedure and it were expressed as gallic acid equivalents; flavonoid contents were expressed as luteolin equivalents. Extracts from the aerial parts had higher total phenol and flavonoid contents than roots extracts. The highest level of total flavonoid content was determined in the aerial parts collected in june (0,30%), followed by the plant material collected in september (0,273%) and then in november (0,16%). The major content of flavonoids in roots was found in plant material collected in september (0,11%), followed by november (0,03%) and then in june (0,01%). The TPC was found to be the highest in aerial parts collected in june (8,02%), followed by september (6,80%) and november (5,74%). In the case of roots of sp. *B. incana* L., the highest level of TPC was found in samples collected in september (4,80%), followed in june (2,77%) and then in november (2,54%).

Conclusions. The significant differences in total phenolic content were found between aerial parts and roots of sp. *B. incana* L. The lowest flavoids and phenol level were determined in roots. It was proved that the collection period of plant materials influence the quantitative content of the phenolic compounds.

Key words: *Berteroa incana*, polyphenols, flavonoids.

428. HOMEOPATHIC PRODUCTS CONTAINING ALKALOIDS

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Introduction. Alkaloids are one of the largest groups of secondary metabolites in plants, which have basic nitrogen-containing heterocyclic compounds, which in physiological doses have therapeutical effects on the body and in high doses are toxic, this is why there are many products with alkaloids in homeopathic medicinal products. Some practitioners claim that homeopathy works by stimulating the body to heal itself.

Aim of the study. Evaluation of medicinal plants and vegetal products containing alkaloids (pyrrolizidine, tropane, quinolizidine, isoquinoline, nicotine, indole, acyclic) and their homeopathic medicinal products.

Materials and methods. The analysis of scientific literature regarding to the medicinal plants containing alkaloids using the databases: *eLibrary*, *PubMed*, *ResearchGate* (20 sources). It was evaluated vegetal products and their homeopathic medicinal products with alkaloids following the State Nomenclature of Medicines from Republic of Moldova.

Results. We mention that homeopathy is a concept for the manufacture and use of various highly diluted products to treat diseases, which was created in 1796 by Samuel Hahnemann. His doctrine was based on ‘like cures like’, whereby a substance that causes a symptom is used to treat the same symptom in illness. A second central principle is the ‘law of infinitesimals’, which involves a process of serial dilution and shaking that is asserted to increase potency. According to State Nomenclature of Medicines, the homeopathic pharmaceutical forms are presented in the top for tropane alkaloids: *Belladonnae folia* (Dentokind, Guna Dermo, Bronhalis Hell, Tonsilotren); followed by indole alkaloids: *Strichni semina* (Eubioflor, Guna Addict, Guna Bowel, Guna Digest, Nux-Vomica, Mucosa compositum) and isoquinoline alkaloids: *Berberidis folia* (Discus Compositum, Reneel, Guna Diur) and *Chelidonii herba* (Hepeel, Hepar Compositum, Guna Addict). Pyrrolizidene, quinolizidine and acyclic alkaloids are presented with a smaller number of homeopathic products than those with indole alkaloids.

Conclusions. Alkaloids have approximately 50 homeopathic pharmaceutical products after State Nomenclature of Medicines from Republic of Moldova, mostly in tablets, oral and injectable solutions.

Key words: alkaloids, homeopathic medicinal products.

429. ANTIOXIDANT NANOPARTICLES FOR PATHOLOGICAL ANGIOGENESIS INHIBITION: OBTAINING AND IN VIVO CAM MODEL EVALUATION

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Introduction. With an increasing incidence among young people, cancer is a disease that affects millions of people worldwide. Lately, many studies have been conducted to investigate the connection between antioxidants and pathological angiogenesis. In this context, the use of antioxidants in the form of nanoparticles could improve the efficiency of this therapy due to specific surface area of nanostructures, thereby ensuring a better contact with cells which would increase the chances of pathological angiogenesis inhibition.

Aim of the study. In addition to the existing results, the purpose of the present work is to develop new nanoparticles based on chitosan low molecular weight derivatives for cancer therapy, taking into account not only their role as carriers but their action itself: the antioxidant potential which is beneficial in inhibiting angiogenesis, as discussed above.

Materials and methods. As a continuation of previous studies, carried out on chitosan, this paper purpose has as starting point the use of four previously obtained chitosan derivatives, note here with CLA, CLB, CLC and CLD, to obtain innovative nanoparticles formulations by ionic reticulation using as cross-linking agent sodium tri-polyphosphate (STPP). The infrared measurements were acquired with a Bruker ALPHA FT-IR spectrophotometer, in the spectral region of 4000-500 cm⁻¹. For biological evaluation, in vivo CAM model was used, to assess the antiangiogenic activity of chitosan derivatives nanoparticles.

Results. In the spectrum of chitosan nanoparticles as well as that of its functionalized derivatives (CLA-CLD), the characteristic bands have been identified. In connection with biological evaluation, all four types of nanoparticles resulted in reduced angiogenesis, but the

maximum effect was observed in CLC and CLD cases, with significant decrease of vascular support.

Conclusions. Our results demonstrate that chitosan derivatives nanoparticles strongly enhances the therapeutic effect of chitosan and the use of appropriate nanostructures, capable of overcoming biological barriers, could be an important strategy for future antitumor therapy.

Funding: This work was supported by a grant of Ministry of Research and Innovation, CNCS - UEFISCDI, project number PN-III-P1-1.1-PD-2016- 0233, within PNCDI III. (Contract No. PD 144/2018).”

Key words: Angiogenesis, nanoparticles, chitosan derivatives, chorioallantoic membrane, cancer therapy.

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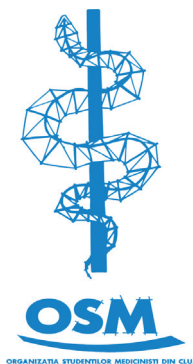
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