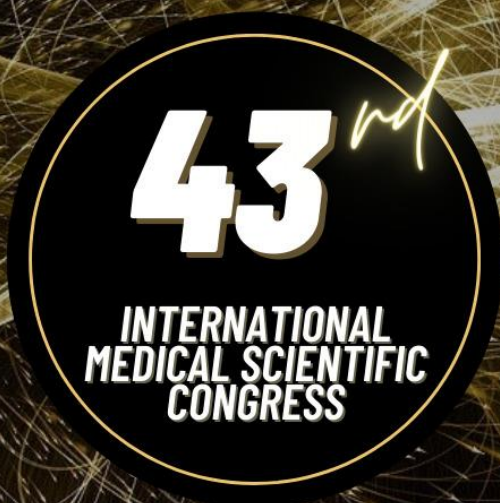


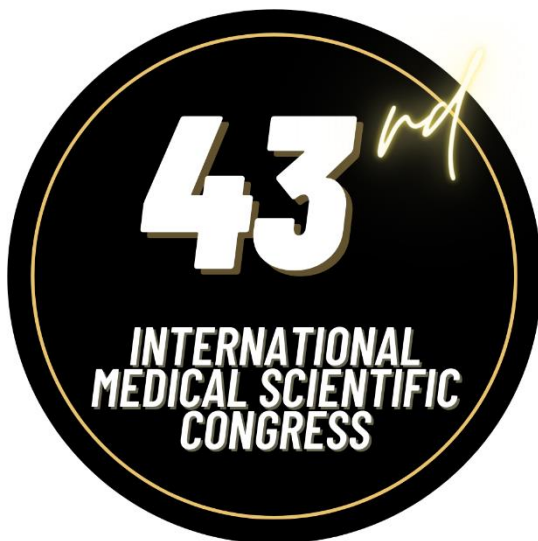
43rd International Medical Scientific Congress
20th - 24th May 2022 | Ohrid, North Macedonia

BOOK OF ABSTRACTS



Macedonian Medical Students' Association

20th-24th May 2022 Ohrid, Macedonia



BOOK OF ABSTRACTS

20th-24th May 2022 Ohrid, Macedonia

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MACEDONIAN MEDICAL STUDENTS' ASSOCIATION
MMSA

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WELCOMING NOTES



20th-24th May 2022 Ohrid, Macedonia

History. For some of us, it has been one of our favorite subjects during our education, and for some the least favourite. But knowing that you are going to be a big part of someone's history, we are sure that it makes you feel fulfilled and brings caring about those moments higher on the ladder.

This year, on the 20th of May, the Macedonian Medical Students' Association will once again, be honored to welcome you to write the history of

the International Medical Scientific Congresses. MMSA- Macedonia was founded in 1947, it exists for 75 years now, as long as the Medical Faculty in Skopje. This year, it is our pleasure to announce to you the 43^d International Medical Scientific Congress, as one of the biggest projects for MMSA - Macedonia.

We are medical students, all of us, just like you present here, striving for knowledge, pushing hard to achieve higher level of education, trying to improve our practical skills, digging to discover the core of science, mastering how to learn, how to research, how to be part of a team, becoming aware of how to be better and do better for our community, and use wisely all of the resources to provide the knowledge we need for our improvement. For us to be the best versions of ourselves.

We have an enormous message for all of you, a message that is strong enough to change a life - Encourage yourself to be the best version of you, to feel vibrant and alive, inside and out, to be fearless, to be better than yesterday, to be better friend and colleague, to be a better doctor and a better person. And always strive for greatness. We did that for you, now it's your turn to do it for yourself.

Welcome to the 43^d International Medical Scientific Congress! Enjoy these four days full of education, entertainment, assembling friendships that will last a lifetime, and discover a whole new world that is thrilled to have you in it! Greetings from the Organizing Committee of the 43^d International Medical Scientific Congress.

Yours faithfully,

MMSA



20th-24th May 2022 Ohrid, Macedonia

Dear students, respected guests, dear colleagues,

It is my great honor and pleasure as Dean of the Faculty of medicine at the University "Ss. Cyril and Methodius" on behalf of all employees to extend my greetings to the participants of the 43d International Medical Scientific Congress for students and young doctors that traditionally takes place at the coast of the wonderful Ohrid lake.

The faculty of medicine at the University "Ss. Cyril and Methodius" has a long history from 1947 when on 17th March the decision was announced for the beginning of the studies of medicine in Socialist Republic of Macedonia.

The first lecture was on 3d November 1947, we are aware of the 75 years old tradition of the oldest, largest and owing to our nuptial permanent endeavor, the best faculty of medicine in our country.

The center for continuous medical education has been founded to allow continuous education for young doctors and doctors specialized in different disciplines. I would like to point out that it is a great pleasure to be a member of this big medical family, to belong to the most humane and respectful profession, at the same time it is a great challenge to follow the permanent development and achievements in contemporary medicine.

If you would like to be good students, and especially to be good doctors, you have to work very hard. On this congress there will be many presentations, workshops and seminars, and all these activities will be of great importance for your future professional development and for most of you I hope in the scientific research career. At the end, I would like to wish you successful work, to express my gratitude to the invited speakers and all the guests wishing them a pleasant stay in our beautiful country, and to all of you a wonderful event that will stay in good memories for the years ahead.



Regards,
Prof. Sonja Topuzovska MD
Dean of the Faculty of Medicine in Skopje,
University "Ss. Cyril and Methodius"

20th-24th May 2022 Ohrid, Macedonia

Dear professors, colleagues and guests,

"One day or day One" is your choice whether you will wake up smiling, happy and with the thought that today you will do something better, lasting and true to build a better future and healthier generations, all through sharing your knowledge and experience gained by crossing the thorny path to fulfill your dream and share health, happiness and smiles.



It is my honor and pleasure to proudly, as President of the Organizing Committee, welcome you to the 43rd International Medical Scientific Congress for students of medicine and young doctors, which is traditionally held for the 43rd time, dates 20 through 24 May, 2022 year in Ohrid, Republic of North Macedonia organized by the Macedonian Medical Student Association - MMSA.

Over the years, 75 years of existence of our organization and 50 years of organizing the oldest medical event in Macedonia and the region, the congress, we have proven that it is inevitable and takes a special position as a part of the medical studies and training of our students both scientific and professionally. That's why this year, for you, we have prepared a program that abounds in rich scientific content, practical skills, introduction to the latest medical technology, introduction to the beginnings of medicine and the course of development, as well as a brief overview of everything that happened in the past two years with the Covid-19 pandemic. I warmly recommend you to use all your senses and take everything that is offered to you, because through this event you will be able to see another door of science, knowledge and type of pulse that will benefit you in the future both as doctors and as professionals.

Finally, on my behalf and on behalf of the entire organizing committee, I would like to express my gratitude to our professors, assistants and doctors who tirelessly and unwaveringly extended their hand of knowledge, thanks to our supporters, the Medical Faculty-Skopje and the Macedonian Medical Association and thanks to our sponsors without whose support this year's congress would not be what it is!

A handwritten signature in dark ink, appearing to read 'Bojan Janevski'.

Best regards,
President of the International Medical Scientific
Congress
Bojan Janevski

SCIENTIFIC ADVISORY BOARD AND SCIENTIFIC JURY



SCIENTIFIC ADVISORY BOARD

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20th-24th May 2022 Ohrid, Macedonia

ORGANIZING COMMITTEE



20th-24th May 2022 Ohrid, Macedonia



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AWARDS



AWARDS

The best oral, best case report and best poster presentation will be rewarded with the following prizes sponsored by Scientific Foundation SPIROSKI and MEDizzy:

**Best oral presentation – 500€ & Publication in the Open Access
Macedonian Journal of Medical Sciences + 1-year Premium MEDizzy**

**Best poster presentation – 500€ & Publication in the Open Access
Macedonian Journal of Medical Sciences + 1-year Premium MEDizzy**

**Best case report presentation – 500€ & Publication in the Open Access
Macedonian Journal of Medical Sciences + 1-year Premium MEDizzy**

The presentations are to be assessed both on the Scientific merit of the research and on the ability of the student to convey their work to the audience. The marks given by the Scientific Jury at the Congress and the marks received from the expert's review of the abstract will determine the winners of these awards.

These awards are given to acknowledge the contribution that medical students make to society and to encourage excellence in student research and presentation. We extend our sincerest gratitude to Scientific Foundation SPIROSKI for their initiative and inspiration for medical students to take an active interest in scientific work, enhancing and broadening their knowledge, getting involved and presenting their scientific work. We hope these awards will motivate medical students to strive to realize their fullest potential which could, in turn, be beneficial to the medical field as a whole.

AGENDA



20th-24th May 2022 Ohrid, Macedonia



The Agenda



FRIDAY, MAY 20

Arrival Day &
Registration
20:00 Opening Ceremony
with a Cocktail Dinner

SATURDAY, MAY 21

08:00 Breakfast
10:00 Oral Session
12:00 Coffee Break
12:15 Workshops I
14:00 Lunch
15:00 Lectures
16:15 Coffee Break
16:30 Poster Session
18:00 Free Time
19:00 Dinner
20:30 Social program

SUNDAY, MAY 22

08:00 Breakfast
10:00 Workshops II
11:30 Coffee Break
12:00 Case Reports Session
14:00 Lunch
15:00 Workshops III
17:00 Beach Games
19:00 Dinner
20:30 Social Program

MONDAY, MAY 23

08:00 Breakfast
10:00 Workshops IV
12:00 Coffee Break
12:15 Panel Discussion
14:00 Lunch
15:00 Workshops V
17:00 Free Time
19:00 Dinner
20:30 Closing Ceremony

TUESDAY, MAY 24

08:00 Breakfast
10:00 Post Congress Tour
& Departure Date

1st NIGHT

Formal Opening
Ceremony by the
Hotel Pool

2nd NIGHT

Boat Party on a
Private Boat

3rd NIGHT

Beach Party on
the Hotel Beach

4th NIGHT

Casual Closing
Ceremony in
Egoist Club

Oral Session

Saturday, 21.05.2022

10:00 – 12:00

Chairperson: Goran Dimitrov

Jury: Smilja Tudzarova Gjorgova, Maureen Gaul, Sinisa Stojanovski,
Tim Gaul

1. Case of primary and secondary breast reconstruction in the same patient

ELIZA ZHOGOVSKA, Igor Peev

2. The significance of early diagnosis for risk stratification of life-threatening complications of partial hydatidiform mole coexisting with a live foetus

CHANDHINI VIJAY KURUP, Nithin Jose Sunil, Nikola Popovski, Elitsa Gyokova

3. Choledocholithiasis in a patient with previous cholecystectomy complicated with a liver abscess: a case report

DAJANA CAKO, Valon Saliu, Andrej Nikolovski

4. An exceptional case of autoimmune encephalitis – life battle behind the scenes of the pediatric care

SOFIJA MANEVA, Aspazija Sofijanova

5. A rare case of Encephalitis in a 16 years old patient caused by *Streptococcus pneumoniae*

BLAGICA JANEVA, Anita Arsovska

6. An eclipse at the age of bloom: a puzzling case of a 16-year-old girl presenting with signs of acute polymorphic psychotic disorder with symptoms of schizophrenia, or is it?

DAMJAN PAVLOV, Slavica Arsova

7. A case of Iatrogenic Cushing's Syndrome & Metabolic syndrome following Corticosteroid abuse in Gout treatment

ANANDU SUNDAR, Arun Thampi, Nikolay Nikolov, Martin Nikolov

8. A rare case of Pelvic actinomycosis

SUSANNA KOSHY THOMAS, Amrita Kiran, Kristin Yaneva

9. Vacuum-assisted breast biopsy efficiently guiding diagnosis and management of microcalcifications

AMRITA KIRAN, Anandu Sundar, Ivelina Jurieva Petrova-Burdjeva

10. Painful end-neuromas after traumatic amputation of fingers

IRENA LAZAREVA, Jasin Rustemi, Jovana Kordoska, Aleksandra Tanasoska, Sofija Pejкова, Gordana Georgieva

11. A multiple primary malignancy patient with MSH6 gene mutation: a case report

ALEKSANDRA TANASOSKA, Jovana Kordoska, Irena Lazareva, Snezana Smickoska

12. Allergic contact dermatitis caused by dexpanthenol: A case report

MARIJANA SMILJIC, Bosko Trifunovic, Djuka Ninkovic – Baros

13. Impact of Hand Sanitization on a patient with atopic dermatitis

JISHNU SIVAKUMAR, Susanna Koshy Thomas, Alexander Popov

14. Wolff Parkinson White syndrome – The problem and the solution – a case report

JANE PESHOV, Iva Kolevska, Ivan Arsovski, Dejan Risteski

15. Challenges in managing breast cancer during pregnancy

JOVANA KORDOSKA, Aleksandra Tanasoska, Irena Lazareva, Snezana Smickoska

Poster Session

Saturday, 21.05.2022

16:30 – 18:30

Chairperson: Sinisha Stojanoski

Jury: Goran Dimitrov, Tim Gaul, Nikola Gjorgov, Ana Kaftandzieva

1. Prevalence estimate of the bacterial pneumonia in the primary healthcare visits in Croatia prior and during COVID pandemic

PETAR JOZAK

2. “Ready-to-use” jellies as vehicles for oral administration of two model drugs

ALEKSANDRA BEUK, Nataša Bubić Pajić

3. Acute corrosive poisoning in adults - evaluation of our one year material with a review of therapeutic management

MARTINA SAVOVSKA, Andon Chibishev

4. Evaluation of Left Ventricular Function before and after Coronary Artery Bypass Grafting Surgery, using Echocardiography

ANDREJ PETROVSKI, Leonid Karadjinov, Mina Kovandzic, Gloria Gjorgova, Gonxha Selmani, Vasil Papestiev

5. Genetic polymorphisms of CYP2C9 gene among Macedonians and its implications in the metabolism of non-steroidal anti-inflammatory drugs (NSAIDs)

ORDANCHE RIBARSKI, Meri Kirijas

6. Butyrylcholinesterase activity in rat digestive tract after subchronic application of sulfur-containing amino acids

BOJAN KORICA, Danka Krtinić, Anja Komapnijec, Dimitrije Zdravković, Marija Stojanović

7. Evaluation of epidemiological characteristics of lung cancer patients in Macedonia

TEODORA VINCE ZDRAVESKA, Dejan Todevski

8. IL-6 and D-dimers as biomarkers for COVID19 severity

RITA AJDARAGA, Teodora Brnjarchevska, Aleksandar Petlichkovski

Case Report Session

Sunday, 22.05.2022

12:00 – 14:00

Chairperson: Sonja Bojadzieva

Jury: Anita Arsovska, Igor Isjanovski, Zoran Arsovski, Zlate Stojanoski

1. A rare case of hemolytic disease of the newborn caused by minor blood group incompatibility treated with exchange transfusion

CVETANKA MANCHEVA, Nikolina Zdraveska

2. A rare case of mixed mucinous carcinoma and Hurthle cell oncocytoma of the thyroid gland

DONA ZAREVSKA, Sinisha Stojanoski

3. A rare case of a very large well-differentiated retroperitoneal liposarcoma

MIHAELA TASHKOVA, Yancho Delchev

4. C1 Jefferson fracture associated with an Occipital Condyle fracture

PLAMEN PENCHEV, Mihail Kalnev, Borislav Kalnev, Ivo Kehayov, Borislav Kitov, Hristo Zhelyazkov

5. Pathological fracture of femur due to metastatic follicular thyroid carcinoma

NEVENA NIKOLOVA, Sinisa Stojanoski

6. The negative impact of early tapering in treatment of toxoplasma lesions

SUHER ABDURAMAN, A.R.C. Celebi

7. Inferior vena cava resection and ligation: a life-prolonging treatment option for patients with renal cell carcinoma with venous extension

SARA BANCHOTOVSKA, Mishel Andov, Vangel Zdraveski

8. A Case Report of a Warthin's Tumor Diagnosed by Fine Needle Aspiration Cytology

LEONID-RENE-TOMAS KARADJINOV, Andrej Petrovski, Ljuben Angelovski, Ljube Ivkovski

9. A case of cervical glassy cell carcinoma in a young adolescent patient

TINA TRAJKOVSKA, Goran Dimitrov

10. A case report of an adenoid cystic carcinoma of the breast diagnosed by fine-needle aspiration biopsy

SANJA IVKOVSKA, Ljube Ivkovski

11. An unusual case of Kohler's disease in a 6-years old boy with osteomyelitis

EMINA TERKO, Adnan Al-Tawil, Goran Djuričić

12. Selection of patients with cervical intraepithelial neoplasia (CIN) for carbon dioxide (CO₂) laser vaporization

SOLUNKA JOVOVA, Martina Stojkova, Goran Dimitrov

13. 3 C - section with complication of colporrhexis

MARTINA STOJKOVA, Solunka Jovova, Goran Dimitrov

14. The first heart transplantation performed in Macedonia

TIJANA STOJANOVSKA, Sashko Jovev

15. A case report of radiologically occult, nonpalpable Intraductal Papilloma diagnosed by nipple discharge smear analysis

MINA KOVANDZIC, Gloria Gjorgova, Nina Karadjinova, Ljube Ivkovski

16. Report of a pregnancy after ovarian rejuvenation treatment in a patient with three previous IVF failures

MARTINA JANEVA, Yiğit Çakıroğlu

20th-24th May 2022 Ohrid, Macedonia



ORAL SESSION



Case of primary and secondary breast reconstruction in the same patient

Abstract ID: 43-1/06

Authors: ELIZA ZHOGOVSKA, Igor Peev

Institution: Department of Plastic and Reconstructive Surgery, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Breast reconstruction has enabled women to overcome a tragic chapter in their lives. Breasts are essential to a woman's femininity, so they uphold authority and make their own reconstruction decisions, including approval of the final outcome, which the surgeon helps to personalize their approach. There are numerous surgical procedures utilizing breast implants, autologous tissue or combined approaches to resolve contour alterations, volume loss, and breast deformity. The main goal is to assure survival of the patient and good esthetic outcome that will influence the quality of life in women after mastectomy.

Case presentation: We present a 45 year old patient that underwent radical mastectomy and lymphadenectomy of the right side due to stage 2A ductal carcinoma in the year 2020. Approximately ten months after her last course of neoadjuvant therapy, she required reconstruction of the right breast. Due to soft tissue depression lipofilling was done at the first stage following a secondary implant-based reconstruction and prophylactic skin-sparing mastectomy with primary implant-based reconstruction on her left side. The final procedure followed a year later comprising bilateral nipple-areolar complex reconstruction and touch-up lipofilling in order to symmetrize the volume. We present excellent results achieved.

Conclusion: As more young females are affected by breast cancer the importance of breast reconstruction has been ever-evolving in the last decade. Breast reconstruction continues to be at the forefront of the area of breast carcinoma treatment achieving good esthetic results as part of holistic carcinoma treatment. And what is the most important, breast reconstruction does not affect overall treatment and life expectancy meaning it is a safe procedure.

Keywords: breast cancer; breast reconstruction; mastectomy; implants;

The significance of early diagnosis for risk stratification of life-threatening complications of partial hydatidiform mole coexisting with a live foetus

Abstract ID: 43-1/08

Authors: CHANDHINI VIJAY KURUP, Nithin Jose Sunil, Nikola Popovski, Elitsa Gyokova

Institution: Obstetrics and Gynaecology, Medical University of Pleven, Bulgaria

Introduction: Molar pregnancy is a complete or partial aberrant proliferation of trophoblastic tissue after the abnormal fertilization of an ovum by 1 or 2 sperm. Partial molar pregnancy and a live foetus are rare as most pregnancies result in first trimester abortions due to triploidy. The small percentage of pregnancies that thrive can result in life-threatening complications owing to placentomegaly, increasing the risk of early-onset preeclampsia and HELLP syndrome.

Case Presentation: The presented case is of a 20-year-old primigravida, who was detected during the first-trimester scanning with abnormal placental tissues indicating a partial mole. There were no structural changes to the baby but to confirm the diagnosis and for further genetic testing, an invasive procedure was suggested, and the patient refused it due to full commitment to the pregnancy. Later, an anomaly scan at 21 weeks detected liver and umbilical cord cysts. The patient continued her pregnancy, declining further investigations, and by the 27th week, she had developed preeclampsia and HELLP syndrome at the 28th week. An emergency c-section was performed and the newborn had anomalous facies. The inspection of the placenta showed focal areas of trophoblastic proliferation and microvesicles, confirming a partial mole. The infant's liver continues to have multicystic lesions and is awaiting a liver transplant for hepatic insufficiency.

Conclusion: This case highlights the importance of early detection of molar pregnancies to provide suitable assistance and counselling to patients. In rare cases, a partial molar pregnancy can continue after the first trimester, although the risk of subsequent complications is very high. Detrimental sequelae include preeclampsia, haemorrhage, anaemia, hyperthyroidism, and IUGR; hence these pregnancies should be closely monitored beyond the first trimester. Also, to rule out persistent gestational trophoblastic disease after delivery, regular follow-ups with monitoring of beta-hCG levels are recommended till it gets normal.

Keywords: Partial molar pregnancy, Preeclampsia, HELLP syndrome, beta-hCG

Cholelithiasis in a patient with previous cholecystectomy complicated with a liver abscess: a case report

Abstract ID: 43-1/09

Authors: DAJANA CAKO, Valon Saliu, Andrej Nikolovski

Institution: University Surgery Clinic „Sv. Naum Ohridski”, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Liver abscess is a rare complication associated with cholelithiasis as one of its possible causes. Its incidence in the USA is estimated to be 20/100 000 admissions. Etiologically, it can be caused by bacteria, parasites or fungi.

Case Presentation: We present a case of a 78 years old female patient presented at the emergency department with diffuse abdominal pain with sudden onset one day before the physical exam. Two years ago she was subsided to laparoscopic cholecystectomy for gallbladder calculosis. On admission leucocyte blood count was $22.80 \times 10^9/L$, platelets count of $35.00 \times 10^9/L$, C-reactive protein (CRP) value of 311.50 mg/L, serum urea nitrogen value of 25.30 mmol/L, serum creatinine value of 395.00 mmol/L and serum total bilirubin value of 66.00 mmol/L. Abdominal ultrasound, computerized abdominal tomography and magnetic resonance cholangiopancreatography revealed dilated extra and intrahepatic biliary ducts with aerobilia without a visible mechanic obstruction. In the 6th and 7th segment of the liver an irregular formation was detected (diameter of 90 mm) with central zone of air indicating necrotizing abscess formation. ERCP was indicated. During ERCP, a common bile duct stone was found and extracted. Percutaneous liver abscess evacuation under CT was performed and a drain was inserted. Post interventional CT scan confirmed abscess formation in resolution associated with inflammatory and serum markers normalization. The patient was discharged from the hospital voluntarily.

Conclusion: Liver abscess formation after biliary tree surgery is a rare condition. It can occur early after the procedure or several years later. The patients present with abdominal pain, fever and Charcot's triad. In cases of biliary tree obstruction suspicion, ERCP is indicated for stone extraction followed with antibiotic therapy and percutaneous drainage for the abscess. This treatment modality was successfully applied in our case.

Keywords: cholelithiasis, complications, liver abscess

An exceptional case of autoimmune encephalitis – life battle behind the scenes of the pediatric care

Abstract ID: 43-1/10

Authors: SOFIJA MANEVA, Aspazija Sofijanova

Institution: University Clinic for Pediatric Diseases „Mother Theresa”, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Autoimmune encephalitis refers to a group of conditions that occur when the body's immune system mistakenly attacks healthy brain cells, leading to inflammation of the brain. It may be associated with antibodies to proteins on the surface of nerve cells, or within nerve cells. Some of these proteins are involved in passing signals between nerve cells. It generally occurs sporadically, with no family history. This condition can progress to loss of consciousness or even coma.

Case report: A two-and-a-half-year-old girl was re-admitted to the Pediatric Clinic, where she was followed up in a neurological department with a basic diagnosis of encephalopathy, epilepsy and differential diagnosis of Lennox-Gastaut syndrome, due to a respiratory infection. In the general status there is a specific somnolence, afebrile, hypotension, eucardia, dyspnoea with abdominal breathing. In the meantime she is on antibiotic therapy. Haemostasis tests were performed, which showed low levels of aPTT, MRI of the brain showing leukodystrophy, and EEG with irregular brain activity. Dual antibiotic therapy and biological therapy were continued due to the detection of anti-GAD65 antibodies in the cerebrospinal fluid, which was delayed due to deterioration of general condition with dyspnea and elevated inflammatory markers. On the twenty-fifth day of hospitalization, the acute condition worsens with a drop in the oxygen saturation of up to 40%, due to which she is transferred to the intensive care unit, in an unconscious state with assisted mechanical ventilation.

Conclusion: Autoimmune encephalitis is a treatable disease, but some rare cases as this one end up being very complex. Early treatment decreases the likelihood for long-term complications, speeds recovery, and reduces the risk of recurrence (relapse). If not treated, the condition can lead to progressive neurologic deterioration and loss of life.

Key words: autoimmune encephalitis, epilepsy, biological therapy, assisted mechanical ventilation.

A rare case of Encephalitis in a 16 years old patient caused by *Streptococcus pneumoniae*

Abstract ID: 43-1/11

Authors: BLAGICA JANEVA, Anita Arsovska

Institution: University Clinic of Neurology, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Encephalitis, inflammation of the brain, is most commonly caused by a viral infection. Symptoms may be mild to non-existent in most individuals; therefore, many cases remain undiagnosed. *Streptococcus pneumoniae* is number one cause of bacterial meningitis but extremely rare for encephalitis. Many patients with encephalitis are left with residual physical or neuropsychological deficits which require long-term multidisciplinary management.

Case presentation: We present a case of a 16 years old patient hospitalized after progression of acute symptoms clinically manifested with alteration of mental status. Hetero anamnesis gives information of acute intense vomiting after consummation of a sandwich, general weakness and headache. Rapid Antigen testing for SARS Cov-2 was negative. CT of head and RTG of thorax showed normal findings. Hyponatremia and keratoconjunctivitis were observed. Lab results show leukocytosis, elevated levels of D-dimers and Creatine Kinase. Urine analysis shows proteinuria, ketonuria, procalcitonin levels of 0.625 ng/ml. Urine culture was negative. The diagnosis was established by examination of CSF with M-Real time PCR. Presence of *Streptococcus Pneumoniae* was detected. Control CT scan showed several white matter hypodensities in both brain hemispheres. MRI showed micro abscesses of septic character located in the white matter. The patient was treated with Sol. Dextrose 5%, Sol. NaCl 0,9%, Sol. Mannitol, Amp. Lendacin, Amp. Vancomycin, Amp. Dexamethasone, Amp. Famosan, Amp. Clexane, Amp. Lasix, Amp. Diazepam. The patient had an improvement in somato-neurological status from sopor to state of consciousness. The patient is under further observation and hospital treatment that will last at least 8 weeks.

Conclusion: Given the rarity of *Streptococcus pneumoniae* associated encephalitis, much remains unknown regarding predilection and optimum treatment. This case shows the importance of careful evaluation and multidisciplinary treatment.

Key words: Encephalitis, pneumococcal infection

An eclipse at the age of bloom: a puzzling case of a 16-year-old girl presenting with signs of acute polymorphic psychotic disorder with symptoms of schizophrenia, or is it?

Abstract ID: 43-1/21

Authors: DAMJAN PAVLOV, Slavica Arsova

Institution: University clinic of Psychiatry, Medical Faculty Skopje, N. Macedonia

Introduction: Psychiatrists deal with the most perplexing problems that come from intriguing changes in the setting of the central nervous system. Psychotic disorders with symptoms of schizophrenia most commonly start manifesting in adolescence. They should be handled carefully because they can be easily missed by the young person's parents, be a part of adolescent crisis or caused by substance abuse.

Case presentation: A 16-year-old girl presents with abrupt personality changes including: verbal and physical aggression, inappropriate and destructive behaviour, anxiety and agitation. This behaviour got her arrested by the police after having visited her boyfriend who isn't approved by her parents. Heteroanamnestic details are provided by her father who states that changes in character including lowered mood and rebellious behaviour were detected in 2018 after which a psychiatrist prescribed her diazepam and 5-hydroxytryptamine as pharmacotherapy which improved her condition. There is positive hereditary burden from her mother's side. After the police arrest she is taken to the University clinic of psychiatry in Skopje for evaluation and treatment and was given haloperidol, biperiden and diazepam which reduced her distress but the delusions persisted. She is alert, temporospatially oriented, allopsychic and autopsychic orientation are intact, not easily communicable, logorrheic, with increased tenacity and decreased vigilance, her mood is dysphoric, her thoughts are dissociated with paranoid ideations with religious themes and isn't aware nor critical of her state. A toxicology screen was made but the results came back negative ruling out substance-induced psychosis. After a month of treatment with risperidone, biperiden, diazepam and escitalopram she was discharged but is required for regular follow-ups.

Conclusion: Giving a definite diagnosis for this patient is a true challenge taking into consideration the latest ICD-10 diagnostic criteria. A working diagnosis of acute polymorphic psychotic disorder with symptoms of schizophrenia (F23.1) was made but further investigation is necessary for a definite diagnosis.

Key words: brain, behaviour, hereditary, ICD-10, personality, pharmacotherapy, psychiatry, psychosis, schizophrenia

A case of Iatrogenic Cushing's Syndrome & Metabolic syndrome following Corticosteroid abuse in Gout treatment

Abstract ID: 43-1/24

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Introduction: Gout is a disorder of purine metabolism which results in recurrent episodes of urate arthropathy in long standing disease. For acute attacks, treatment includes NSAIDs, colchicine and corticosteroids. Urate-lowering treatment is recommended after resolution of the acute attack. Patients tend to self-medicate with corticosteroids due to debilitating pain during gout crises without clear judgement on the necessity to taper off corticosteroids. Prolonged administration of steroids causes Cushing syndrome, a condition characterised by several clinical consequences.

Case presentation: Herein is reported a case of chronic deforming tophaceous polyarticular gout, which due to corticosteroid abuse progressed to Iatrogenic hyperadrenocorticism, Non-secreting pituitary microadenoma, Dilatory cardiomyopathy, Metabolic syndrome, and Type 2 diabetes. The patient presented with fatigue and orthopnea. Anamnesis revealed a chronic history of gout for which Allopurinol was taken, but later stopped arbitrarily. As gout crises with formation of tophi became frequent, corticosteroids were taken regularly to alleviate the pain. On examination, Moon face, striae, weight gain, facial plethora, purpura with Skin and muscle atrophy were found. ECG, X-ray and echocardiography provided evidence of dilated cardiomyopathy. CT indicated the presence of non-secreting pituitary microadenoma which was managed without surgical intervention. The laboratory findings pointed towards Metabolic syndrome and Type 2 diabetes. The treatment was adjusted to include uricosurics and urico-eliminators. Through endocrinological consultation the metabolic syndrome and diabetes was managed.

Conclusion: Overuse of corticosteroids in the management of gout may be attributed to the patient's lack of awareness about the potential risks associated with its chronic use. The importance of adherence to treatment in chronic gout with uricosuric and urico-eliminator drugs to prevent episodes of acute gout must not be overseen. Physicians must explain the treatment of gout in acute and chronic settings and follow up with regular medical checkups to prevent complications.

Keywords: Cushing syndrome, Gout, Corticosteroid, Metabolic syndrome

A rare case of Pelvic actinomycosis

Abstract ID: 43-1/25

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Institution: Department of Gynecology - St. Marina Hospital, Medical University Pleven, Bulgaria

Introduction: Pelvic actinomycosis is a rare chronic granulomatous bacterial infection related to the long-standing use of an intrauterine device. Actinomycosis poses a challenge in diagnosis, owing to its low incidence rates and its nonspecific signs and symptoms. It is commonly misdiagnosed to be a malignant condition due to its infiltrative and invasion nature.

Case presentation: The patient presented with severe episodic pain in the lower abdomen for several months. Ultrasound and abdominopelvic CT imaging studies found a pelvic space-occupying lesion, which was considered to be of ovarian origin approximately 114/143mm in dimension and was suspected to be malignant. An intrauterine pessary was also found in the uterine cavity. The patient had completed her family with 5 children and had a BMI of 48.07, which made her a candidate for robot assisted total hysterectomy and bilateral adnexectomy. An inflammatory cystic lesion which was found to be severely adherent to the surrounding structures including the bladder, sigmoid, uterus and adnexa was described peroperatively. Considering the risk of injury to adjacent organs the robotic surgery was converted to open through a lower median laparotomy. The uterus and the adnexa were removed and a lavage and drainage of the abdominal cavity was done. The lesion was concluded to be Pelvic actinomycosis through postoperative microbiological investigation. The patient was treated with high-dose antibiotics and was discharged in good condition.

Conclusion: This case shines light on the importance of taking into account Pelvic Actinomyces as a differential diagnosis for lower abdominal pain. A high index of suspicion must be maintained in patients who are long-time carriers of intrauterine devices who present with an extensive pelvic mass. Adhesive complications may be prevented with early diagnosis and treatment.

Keywords: Actinomyces, Pelvic mass

Vacuum-assisted breast biopsy efficiently guiding diagnosis and management of microcalcifications

Abstract ID: 43-1/26

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Introduction: Breast cancer is the most common cancer diagnosed in women worldwide but thanks to modern imaging studies and interventional pre-therapeutic procedures, breast cancer can be diagnosed and treated at an early stage. VABB is a minimally invasive technique with an ever-growing use in the diagnosis of non-palpable breast lesions or microcalcifications.

Case Report: We report a case of a 67-year-old woman presenting without any complaints but with microcalcifications in the right breast detected during screening mammography. A mammographically guided Vacuum-assisted breast biopsy using a 9 G needle and 2-3 mm incision was carried out which revealed Ductal Carcinoma in Situ and hormone receptor-positivity (HR+). Taking into consideration the latest guidelines on the management of DCIS, a Breast conservation surgery was carried out and the specimen was sent for histopathology which detected the presence of Ductal Carcinoma in Situ and grade 1 focal invasive ductal carcinoma. This brought into light the indication to carry out a sentinel lymph node biopsy. No further metastasis was found and she is continuing treatment with hormone therapy.

Conclusion: The advantages that Vacuum-assisted breast biopsy offers being a single incision procedure with acquisition of contiguous and directional samples, which is also 10x larger than tissue of core needle biopsy, have contributed to its gradual establishment in workup of suspicious breast lesions. Most preeminently, its sensitivity, specificity and fast performance, have contributed to its increased adoption. Recently, many outcome-based studies have also pointed out its application in resecting benign breast lesions with a curative intent. Thus, in the near future, VABB will become a routinely offered procedure to all pertinent patients.

Keywords: Vacuum-Assisted Breast Biopsy, Ductal Carcinoma in situ, invasive Ductal Carcinoma, Breast Conservation Surgery, microcalcifications, mammography

Painful end-neuromas after traumatic amputation of fingers

Abstract ID: 43-1/28

Authors: IRENA LAZAREVA, Jasin Rustemi, Jovana Kordoska, Aleksandra Tanasoska, Sofija Pejкова, Gordana Georgieva

Institution: University clinic of plastic and reconstructive surgery, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: In traumatic finger amputations injured nerves, if not treated primarily, result in neuroma formation. The most common cause is unorganized regeneration of the distal end of the nerve leading to bulb formation and scarring.

Case Presentation: A 62-year-old male treated at the University Clinic of Plastic and Reconstructive Surgery, Skopje with symptomatic distal end-neuroma, following a 4-year ago initial traumatic multidigit amputation of the index and third finger of his non-dominant left hand. Due to persistent pain, cold intolerance and numbness, the patient underwent several surgeries by other physicians, but the pain remained. Before planning surgery we did several tests to determine and confirm the presence of distal end-neuroma. The Tinel sign on the tips of the finger stumps was positive. The Dellon-McKinnon test, with 1% lidocaine infiltration in proximal digital nerves, was also performed. Visual Analog Scale (VAS) for pain before the application was 10 points vs 1 point after application, meaning complete pain dissolution. These diagnostic tests confirmed the presence of symptomatic end-neuroma. Surgical intervention was planned and performed under WALANT anesthesia. During the intervention, the digital nerves of the rest of the fingers were identified and end-neuromas were found on their ends. The neuromas were resected and proximal dissection of the digital nerves was performed. They were then transposed into the palmar interosseous muscles. At 6 months follow-up, the pain was completely resolved (VAS 2 points) with regained hand function.

Conclusion: The description of the pain and sensations, causing everyday lifestyle limitations, due to neuromas after amputation differs depending on the patient's age, profession and social background. In emergency surgery procedures for traumatic amputations, primary treatment of the nerve should be taken into consideration. The nerves should be located away from the stump and surface to prevent end-neuroma formation.

Keywords: traumatic amputation, persistent pain, neuroma

A multiple primary malignancy patient with MSH6 gene mutation: a case report

Abstract ID: 43-1/30

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Introduction: Multiple primary malignancies are present when a patient is diagnosed with more than one primary malignancy and each tumour is histologically unrelated to the others. The risk factors for MPMs vary and include both genetic and environmental causes. MSH-6 gene is a member of a set of genes known as the mismatch repair genes, which play an essential role in repairing DNA. MMR gene mutations are linked with the occurrence of Lynch Syndrome, a syndrome associated with a genetic predisposition to different cancer types.

Case presentation: In 2010, a 47- year-old woman was diagnosed with invasive ductal carcinoma of the right breast, without any metastatic deposits in the axillary lymph nodes. In the same year a mastectomy was done and adjuvant chemotherapy. After a year the patient developed endometrial adenocarcinoma, which was only dealt with by surgery. A third primary malignancy occurred in 2017 when the patient was diagnosed with invasive adenocarcinoma of the sigmoid colon, which was only surgically treated too. Her age, the type and location of the previous cancers supported the theory of possible diagnosis of Lynch syndrome. After 4 years, in 2021 she was diagnosed with invasive ductal carcinoma of the left breast. The same year the diagnosis of Lynch syndrome was confirmed by gene analysis for inherited carcinoma, which showed a heterozygous mutation in the MSH6 gene.

Conclusion: Identifying cancer patients with genetic disorders associated with germline mutations in DNA mismatch repair (MMR) genes is very important for these patients and their families to get the right screening and early detection for other malignancies. Different treatment strategies can be applied to these patients including active surveillance and mono immunotherapy.

Keywords: Lynch syndrome, colorectal cancer, breast cancer, MSH gene.

Allergic contact dermatitis caused by dexpanthenol: A case report

Abstract ID: 43-1/35

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Institutions: Faculty of Medicine, University of Banja Luka, Department of Dermatovenereology, University Clinical Center of the Republic of Srpska

Introduction: Exposure to various materials in our close environment can induce allergic reactions in the form of allergic contact dermatitis (ACD). Skin efflorescences vary from erythema or a light rash to papules and vesicles, accompanied by pruritus, swelling or pain. A gold standard for diagnosing ACD is patch test.

Case presentation: A 19-year-old female patient presented with bilateral erythema on upper and lower eyelids followed by pruritus. After examination, the rash is described as erythematous, pruritic patches with papules and vesicles followed by oedema and lichenification. Eyelid oedema was severe on several occasions when the patient was referred to the emergency room. With continuing episodes of resolution and recurrence, detailed tests were carried out. Skin prick test was negative, along infective and autoimmune diseases tests. Patch test with European standard series was negative. The rash worsened, spreading from eyelids and affecting cheeks and chin. Topical steroids were prescribed, such as aclometasone, with oral antihistamines and topical immunomodulators. The patient responded well, but recurrence was frequent. Our patient developed steroid-induced rosacea. Over a period of two years, it was noticed that products that contained dexpanthenol triggered ACD. We suggested Repeated open application test (ROAT), which is indicated in patients where new allergens are involved or they are not thoroughly explored. After 24 hours, a mild erythema began to appear, followed by papular lesion in the next 24 hours and scaling patches in the following days.

Conclusion: Documenting and reporting certain allergens is of great importance because of possible misdiagnosis and treatment errors. Considering that dexpanthenol is found in many cosmetic and pharmaceutical products that are also a part of ACD treatment, it should be noted that it is a potential allergen, especially in chronic dermatitis of unknown cause, where implementation of patch test series that contain panthenol should be considered.

Key words: allergic contact dermatitis, dexpanthenol, d-panthenol, allergen, dermatology

Impact of Hand Sanitization on a patient with atopic dermatitis

Abstract ID: 43-1/36

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Introduction: Hand hygiene is regarded as one of the key measures for prevention of the transmission of the SARS-CoV-2 virus. According to the recommendations of The Center for Disease Control and Prevention, handwashing for 20 seconds or using a hand sanitizer with 60% alcohol is effective against COVID-19. However, with a skin condition like atopic dermatitis washing the hands often can lead to dry cracked skin, itchiness, and pain. Discussed here are the cutaneous complications of a patient with atopic dermatitis due to these preventative measures.

Case presentation: Herein is presented a case of a 31 year-old patient with Fitzpatrick skin phototype III and a history of childhood atopic dermatitis. The patient had eczematous lesions on the hands for 10 years associated with complaints of itching and numbness of the palms and fingers of both hands.

The patient's anamnesis confirmed the intensive use of antibacterial disinfectants and hand gels, about 30 times a day for prevention of COVID-19. S-1000 patch test was conducted to identify the cause of contact allergic dermatitis. The tests interpreted at the 48th and 72nd hour showed positive results for Nickel (II) Sulfate, 2-Bromo-2-Nitropropane, and Diazolidinyl urea. Some of these haptens are formaldehyde releasing preservatives found in gels. The patient was prescribed Methylprednisolone aceponate and educated regarding the importance of avoiding contact with these allergens.

Conclusion: Rational hand hygiene is crucial in our fight against COVID-19, and integrity of the skin barrier is an important aspect of hand hygiene. It is imperative that patients with dermatological conditions must be aware of ways by which they may keep themselves safe from COVID without having to endure flare-ups. Allergenic components in sanitizers need to be recognised and remedied through the use of hypoallergenic emollients or topical therapy to reduce the inflammation.

Keywords: hand sanitation, atopic dermatitis

Wolff Parkinson White syndrome – The problem and the solution – a case report

Abstract ID: 43-1/37

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Introduction: WPW syndrome is among the most common cardiac pre-excitation syndromes. The prevalence of WPW is approximately 1 to 3 per 1000 individuals. Wolff Parkinson White is a congenital heart conduction abnormality which consists of presence of a secondary abnormal conduction pathway. The accessory pathway spreads nondecremental impulses unlike the physiological decremental AV delay. The pathognomonic sign of WPW is a preexcitation sign on a ECG.

Case presentation: The case presents a 32 years old woman, presenting with symptoms of tachyarrhythmia with a narrow QRS complex with heart palpitations and shortness of breath. History reveals that the patient has had recurrent tachyarrhythmic episodes for the past two years, with increased frequency in the last two months. The patient did not report any previous illnesses. Based on the appearance of the 12 channel ECG, with pre-excitation signs, the patient was conducted for elective electrophysiology study (EFS). Primary signs of ECG showed that the accessory pathway is located right posteroseptal. Her heart ultrasonography was normal. EFS was done via right femoral vein. Cardiac mapping was done around the coronary sinus, and after the positive signal ablation was conducted via the ablative catheter. After 3s of the ablation, the delta wave was gone and an anterograde and retrograde testing was done 15 minutes after the initial ablation, which showed no signs of an accessory pathway. Control ECG was normal with sinus rhythm, normal P-R, without delta wave and with T wave memory sign.

Conclusion: With this case report, we are proving that the first line of causal treatment for WPW syndrome is radiofrequent ablation. However most of the patients only have positive ECG changes without clinical symptoms, known as a WPW pattern. They may not have any symptoms, but it is important to note that they have 1-2% annual risk of progressing to arrhythmia.

Keywords: Tachycardia, Wolff Parkinson White syndrome, WPW, ECG, Electrophysiology study

Challenges in managing breast cancer during pregnancy

Abstract ID: 43-1/39

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Institution: University Clinic for Radiotherapy and Oncology, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Breast cancer is the most common cancer among women worldwide. This cancer usually affects women over the age of 50, but younger women can also get breast cancer. About 1 in 8 women will be diagnosed with breast cancer during their lifetime, but there is a good chance of complete recuperation if it is diagnosed in the early stage. Breast cancer in pregnancy is rare, but it is reported in 1 in 2000 pregnancies. Since the age of childbearing increases, the numbers are expected to rise.

Case presentation: This case is about a 30-year-old woman diagnosed with invasive ductal breast cancer in the 25th week of pregnancy. On self-examination, she noticed a palpable mass in her right breast, which leads her to the hospital. On breast ultrasound evaluation, a breast mass highly suspicious for BI-RADS 4 (breast malignancy) was noted. She underwent a right breast incisional biopsy with histopathology results showing breast cancer. Radical mastectomy and axillary node dissection were performed during pregnancy and adjuvant chemotherapy was postponed after delivery. Genetic testing revealed BRCA 2 gene mutation, in heterozygous form.

Conclusion: Early diagnosis and right treatment of breast cancer during pregnancy are possible and it is essential for the well-being of the mother and the child. Every decision made during this process must be multidisciplinary and discussed with the patient.

Keywords: pregnancy, breast cancer, BRCA-2 gene

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POSTER SESSION



Prevalence estimate of the bacterial pneumonia in the primary healthcare visits in Croatia prior and during COVID pandemic

Abstract ID: 43-2/02

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Background: General practice physicians in Croatia show vast differences in classifying community-acquired pneumonia and COVID-19 emergence signified importance on proper tracking of cases. During COVID pandemic, the scientific world observed a significant decrease in the flu/influenza cases as well as other pathogens causing atypical pneumonia, potentially due to virus interference.

Objective: Considering that theory, the main goal of this study was to calculate prevalence of the bacterial pneumonia in the primary healthcare visits in Croatia in the period of 2018-2021. as observed results could spark discussion in the field of pneumonia management.

Materials and Methods: Number of cases for each year 2018., 2019., 2020. and 2021. was requested from HZJZ through the right to access information. Request was made for the J15* set of codes in the ICD-10 which consists of unique diagnosis of bacterial pneumonia, unspecified (J15) and any of the codes in the range of J15.0-J15.9.

Results: Number of cases under J15 code in the primary healthcare visits in Croatia in 2018 was 7956, 2019 - 8383, 2020 - 6251 and in 2021 - 5530 . Prevalence was estimated using an estimate of the population in Croatia for every year. Pre-COVID estimate 20 per 1000 and during COVID 15 per 1000.

Conclusion: Due to many difficulties in the collection of the data and inconsistencies among different practices in the primary healthcare in Croatia, which are described in the paper, it was only possible for these numbers of cases to provide an estimate of prevalence. Nonetheless, it is observed that during COVID pandemic there were less cases of the bacterial pneumonia under set of codes J15* in the primary healthcare visits than in the two years prior.

Keywords: Bacterial pneumonia, COVID-19, prevalence estimate, epidemiology

“Ready-to-use” jellies as vehicles for oral administration of two model drugs

Abstract ID: 43-2/14

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Background: In order to improve patient compliance, the acceptability of a drug dosage form is one of the most important factors. Solid preparations such as tablets and capsules may pose swallowing difficulties, especially among geriatric and pediatric population. Also, non viscous liquid formulations may cause aspiration and coughing in dysphagic patients, which can lead to fatal outcomes. Oral jelly formulations can be considered as an appealing approach to address the abovementioned issues.

Objective: The objective of this study was to prepare oral jellies containing two model drugs – metformin hydrochloride (MET) and propranolol hydrochloride (PRO) and to assess their *in vitro* dissolution rates.

Materials and methods: Official “ready-to-use” gels (Carbomer gel and Carmellose gel, Formulae magistrales) were used as vehicles for preparation of oral jellies of the model drugs (500 mg/5 g of MET and 40 mg/5 g of PRO). The jellies were assessed on drug content and pH. The *in vitro* dissolution tests were performed according to the relevant USP42-NF37 monographs for MET and PRO tablets.

Results: Both vehicles had the ability to solubilize therapeutic dose of each drug. pH of the formulated jellies was in a range of 6.53 and 7.51. The drug content in each sample fell within 90-110% of the label amount. Prepared oral formulations of MET and carbomer gel PRO released more than 95% within 30 min fulfilling the USP42-NF37 requirements. PRO dissolved in 30 min from carmellose jelly was $54.44 \pm 4.61\%$ indicating slow and incomplete drug dissolution.

Conclusion: The current research illustrated the use of oral jellies of MET and PRO as potentially advantageous oral immediate release strategy for overcoming the swallowing problems of other oral dosage forms. To confirm this, appropriate further studies are required.

Key words: oral gels, metformin, propranolol, dissolution tests

Acute corrosive poisoning in adults - evaluation of our one year material with a review of therapeutic management

Abstract ID: 43-2/15

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Institution: University Clinic for Toxicology, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Background: In adults, acute corrosive poisonings have been associated with various chemical superficial or destructive injuries of the upper gastrointestinal tract, often leading to serious and fatal complications. As acute corrosive poisonings represent a serious medico-social issue and have high mortality rates, their therapeutical approach is of utmost importance.

Objective: The objective of this study was to evaluate the applied conservative therapy in adult patients with acute corrosive poisonings based on the therapeutic protocol formed on clinical and endoscopic criteria.

Material and methods: We retrospectively analyzed clinical data from patients with acute corrosive poisoning hospitalized and treated in the University Clinic for Toxicology in the Clinical center „Mother Teresa” in Skopje for a duration of one year - 2021. During the study period, we assessed medical charts from 74 patients. Of these, 50 patients were hospitalized (67,56%). In this group, 48,64% (n = 36) were female and 51,35% (n= 38) male. They were divided into 3 age groups with a median age of $52,33 \pm 17,02$. Kikendall endoscopic classification group was used to detect postcorrosive changes in the upper GI tract that correlated with the severity of the patient's condition.

Results: We found that the major reason for corrosive poisoning is suicide attempt - 92% (n=46), the most common substance used is HCL - 70% (n=35), and II B Kikendall endoscopic classification group was the most prevalent - 32% (n=16). 24% of patients (n=12) had late postcorrosive complications and 16% (n=8) had a fatal outcome.

Conclusion: Conclusively, the conservative therapy is successful in the absence of perforation in the first 15 days after ingestion and stenosis in the upper GI tract in the first 30 days. The therapeutic approach mainly consists of PP inhibitors, H₂ blockers, antibiotics, intensive hyperalimentation, artificial nutrition.

Keywords: corrosive poisonings, postcorrosive complications, esophageal injuries, esophagogastroduodenoscopy

Evaluation of Left Ventricular Function before and after Coronary Artery Bypass Grafting Surgery, using Echocardiography

Abstract ID: 43-2/16

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Institution: University Clinic of Cardiac Surgery, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Background: CAD is known to significantly reduce LV function. CABG is a surgical procedure, which restores coronary artery circulation, improving myocardial contractility and LV performance. 2D-transthoracic-echocardiography is a non-invasive and most accessible method for diagnosis and evaluation of cardiac structure and function.

Objective: In order to assess the improvement of LV function after CABG, we used ECHO pre- and postoperatively.

Materials and methods: This research is a retrospective study of 91 patients that underwent CABG. ECHO was performed preoperatively and 4-6 months after the procedure. LV Ejection Fraction, stroke volume index, minute volume index, internal dimensions and volume in systole and diastole, septal wall thickness, posterior wall thickness, LV mass index, and mitral annular plane systolic excursion are considered in the evaluation of the cardiac systolic function. For the diastolic function, we examine the indexed left atrial (LA) diameter and volume and LA Ejection Fraction. A comparison of pre- and postoperative findings was done.

Results: LVEF%, SVI and MVI were within normal range before and after CABG. Internal dimensions were decreased after surgery, significantly demonstrated in the LV systolic dimension of the women population. The LVEDVI was significantly decreased after CABG while LVESVI was reduced only in the male population. Hypertrophy persisted after the procedure, but a decrease was noted in the mean value of IVS, PW, and LVMI. The MAPSE, being in normal range through the whole research, exhibited a significant increase after CABG. Regarding the diastolic function, the indexed LA diameter was increased after the surgical intervention. The indexed LA volume, although remaining in normal range, showed a significant increase after CABG. The same was true for the decreasing values of LAEF%.

Conclusion: Using ECHO, we managed to extrapolate detailed cardio-morphologic and functional changes of patients that underwent CABG. The period of 4-6 months showed changes indicative of improvements in the LV function after this procedure.

Key words: 2D transthoracic echocardiography, coronary artery bypass grafting surgery, left ventricular ejection fraction, stroke volume index, minute volume index, internal dimensions and volume in systole and diastole, septal wall thickness, posterior wall thickness, LV mass index, mitral annular plane systolic excursion, left atrial diameter and volume and LA Ejection Fraction

Genetic polymorphisms of *CYP2C9* gene among Macedonians and its implications in the metabolism of non-steroidal anti-inflammatory drugs (NSAIDs)

Abstract ID: 43-2/17

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Background: The *CYP2C9* gene, located on the 10q23.33 chromosome, is related with the hepatic metabolism of several NSAIDs (*celecoxib, diclofenac, ibuprofen, indomethacin, naproxen etc.*), among other numerous drugs. Besides the normal allele (*CYP2C9**1) scientists reported other alleles that are associated with lack of enzyme activity (e.g. *CYP2C9**2 and *CYP2C9**3). *CYP2C9**2 and *3 alleles are associated with poor enzyme activity and can lead to therapeutic failure.

Objective: The focus of this research study was to provide data about distribution of *CYP2C9* alleles and *CYP2C9* diplotype among 25 healthy Macedonians in order to calculate the activation score (AS) of *CYP2C9* enzyme. Based on the value of AS we obtained percentage of normal, intermediate and poor metabolizers in our study population.

Materials and methods: We analyzed samples from 25 healthy subjects with Macedonian ancestry by multiplex real-time PCR test for detection of *CYP2C9**2 and *3 polymorphisms of human *CYP2C9* gene (ViennaLab Diagnostics GmbH). The samples were analyzed with 7500 Real-Time PCR System with FAM, VIC, ROX and Cy5 filters.

Results: We identified 13 subjects with *CYP2C9**1*1 diplotype, 7 with *1*3 diplotype, 4 with *1*2 diplotype and 1 subject with *2*3 diplotype. According to the obtained genetic data we calculated the AS for each diplotype (*1=1; *2=0.5; *3=0). In the end 13 out of 25 subjects (54%) had normal AS value of= 2 which refers to normal metabolizers, 11 subjects (44%) had AS value= 1-1.5 which refers to intermediate metabolizers and only 1 subject (4%) had AS value= 0.5 which refers to poor metabolizer.

Conclusion: Even though the number of subjects in our study is small and the results need to be evaluated in bigger cohort, it shows that different genotypes in *CYP2C9 gene* are present in our population. It is important to have it in mind especially when using NSAIDs that can be bought over the counter.

Key words: pharmacogenetics, CYP2C9, NSAIDs

Butyrylcholinesterase activity in rat digestive tract after subchronic application of sulfur-containing amino acids

Abstract ID: 43-2/23

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Background: Butyrylcholinesterase belongs to the serine-hydrolase enzyme family and catalyzes the hydrolysis reaction of choline esters and plays a role in the metabolism of choline esters from food, also in the metabolism of drugs and ghrelin. Sulfur-containing amino acids in the structure of their side-chain contain sulfur and include methionine, cysteine, homocysteine and N-acetyl-L-cysteine. Methionine is an essential amino acid that enters the protein structure and participates in metabolic processes, such as the synthesis of cysteine, glutathione and homocysteine. Increased amounts of methionine lead to hyperhomocysteinemia and oxidative stress. N-acetyl-L-cysteine is an amino acid derived from L-cysteine, and both amino acids exhibit anti-inflammatory and antioxidative properties.

Objective: Our study aimed to explore the effects of sulfur containing amino acids on the activity of butyrylcholinesterase in duodenum, ileum, colon and liver tissue in rats.

Materials and methods: In our study, 32 male Wistar albino rats were randomly divided into four groups K, M, C, N and treated subchronically for 21 day by intraperitoneal injections. They received: K group (Control group) – saline (1ml/day); M group – methionine (0.8 mmol/kg/day); C group – methionine (0.8 mmol/kg/day) and L-cysteine (7 mg/kg/day); N group – methionine (0.8 mmol/kg/day) and N-acetyl-L-cysteine (50 mg/kg/day). After the treatment, butyrylcholinesterase activity was measured in rats' duodenum, ileum, colon and liver tissue. The activity of butyrylcholinesterase was compared statistically between M group vs. K group and between C and N groups vs. M group.

Results: Butyrylcholinesterase activity in the rat duodenum was statistically significantly increased in the M group ($p < 0.05$), while in the N group it was elevated compared to the M group ($p < 0.05$). Statistically increased butyrylcholinesterase activity was also observed in the C group in rat colon tissues ($p < 0.05$).

Conclusion: Administration of L-cysteine and N-acetyl-L-cysteine have increased butyrylcholinesterase activity in the corresponding structures. Methionine has

increased butyrylcholinesterase in the duodenum and has decreased enzyme activity in the ileum.

Keywords: Butyrylcholinesterase, Digestive tract; Methionine, L-cysteine, N-acetyl-L-cysteine

Evaluation of epidemiological characteristics of lung cancer patients in Macedonia

Abstract ID: 43-2/32

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Background: Lung cancer is the leading cause of death from malignant diseases worldwide and its prevalence is constantly increasing, especially in countries with significant air pollution and high smoking rates.

Objective: The aim of the study was to evaluate the lung cancer cases diagnosed during the COVID-19 pandemic compared to the pre-COVID-19 period.

Materials and methods: All patients who underwent bronchoscopy at the Department for invasive diagnostics of the Clinic of Pulmology and Allergology in Skopje because of lung infiltrate detected with imaging methods (lung X-ray and CT) were included in the study. We analyzed gender, age, smoking status and the histological results obtained by endoscopic biopsy from January to December 2019 and January 2020 to December 2021.

Results: A total of 1148 patients were evaluated, 428 from 2019, 354 from 2020 and 366 from 2021. Over 90% of the patients were over 50 years old and approximately 50% were in the seventh decade of life. The total number of confirmed lung cancer cases was 370 in 2019, 307 in 2020 and 318 from 2021. In 2019, 80.8% were male, compared to 76.55% and 74.86% in 2020 and 2021, respectively. A slight increase of the percentage of women with lung cancer was documented. The prevalence of smokers was 89.4% in 2019, 92.66% in 2020 and 85.52% in 2021. The predominant histological type was non-small cell cancer, with 61.62%, 60.98% and 75.24% in the analyzed years, respectively.

Conclusion: The results of our study are consistent with the global epidemiological data, showing an increase of the prevalence on non-small cell cancer (especially adenocarcinoma), increase of the rates of lung cancer in women and the high prevalence of smokers among lung cancer patients. Further evaluation is needed to explain the 14% decrease of diagnosed lung cancer cases during the COVID-19 period.

Key words: lung cancer, epidemiology, COVID-19

IL-6 and D-dimers as biomarkers for COVID19 severity

Abstract ID: 43-2/33

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Background: Symptoms of the COVID19 disease show a wide range of possible outcomes starting from asymptomatic, critically ill, or, even fatal in some people. This inflicted the need for the identification of early biomarkers that can predict the outcome.

Objective: Our study aimed to determine the level of D-dimers and IL-6 as a predictor for COVID19 severity.

Materials and Methods: In this retrospective study we included 74 hospitalized patients with COVID19 during a one month period at the University clinic for Infectious diseases and febrile conditions in Skopje. We divided the patients into two subgroups according to their outcome. The first group contains 45 patients with a fatal outcome within the first week of hospitalization, and the other group of 29 patients with mild COVID19 that required hospitalization less than 7 days without oxygen support. On the day of admission we had sera samples be collected from each patient and serological testing for D-dimers and IL-6 was performed using the fully automated chemiluminescence method (CLIA) (New Industries Biomedical Engineering Co., Ltd [Snibe], Shenzhen, China).

Results: The values measured for D-dimers were 9484.96 ± 17449.69 for the first group and 795.45 ± 970.61 for the second. After performing the student's T test, a significant difference was noticed between the groups; t value=3.93 p value=0.000153. IL-6 concentration for the first group tested 270.07 ± 515.13 , while for the second group it showed 45.81 ± 53.15 . Student's T test for IL-6 resulted in t value=2.33 p value=0.011. The patients with mild COVID19 had D-dimers and IL-6 values slightly above the reference range, while the patients with fatal outcome had significantly higher values.

Conclusion: Our results tested D-dimers and IL-6 as a possible biomarker for COVID19 severity. The limitations of this study were the small sample size and variable time interval between symptom onset and hospital admission.

Keywords: COVID19, IL-6, D-dimer

CASE REPORT SESSION



A rare case of hemolytic disease of the newborn caused by minor blood group incompatibility treated with exchange transfusion

Abstract ID: 43-1/01

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Introduction: Hemolytic disease of the newborn (HDN) is an entity which consists of alloimmune hemolysis caused by the presence of maternal antibodies against the fetal erythrocyte antigens. Rh blood group incompatibility between mother and fetus, mainly triggered by the D antigen, is the major cause of HDN. ABO incompatibility is an important cause of HDN but usually with less severe presentation. Infrequently, HDN can be triggered by minor blood group incompatibilities such as Kell, Kidd, Duffu, or MNSs system antigens or other Rh antigens (c, C, E, e). HDM is a neonatal emergency that needs to be diagnosed and treated promptly in order to avoid the potential complications of severe hyperbilirubinemia.

Case report: A 20-hours old, term female infant was admitted for early-onset of neonatal jaundice. Physical examination showed intense yellow discoloration of the skin and normal neurologic findings. Initial laboratory findings were consistent for HDN. Hemoglobin was 131 g/L and total serum bilirubin was 521 $\mu\text{mol/L}$. Blood group was AB Rh⁺ (Phenotype D/d, C/c), both direct and indirect Coombs tests were positive and anti-c antibodies were detected both in the serum and on the surface of RBC. Despite the conservative treatment (intense phototherapy, immunoglobulin and albumen transfusion) exchange transfusion was indicated due to the very high bilirubinemia. Double volume exchange transfusion with AB Rh⁺, c-antigen negative blood was performed through umbilical catheter. There was a notable decrease of total bilirubin after the procedure.

Conclusion: Hemolytic disease of the newborn caused by minor blood group incompatibilities is often underreported and misdiagnosed. The purpose of this case report is to emphasize the importance of early recognition and acute treatment, which is crucial for proper management of this condition.

Key words: hemolytic anemia, hyperbilirubinemia, alloimmunization, exchange transfusion

A rare case of mixed mucinous carcinoma and Hurthle cell oncocytoma of the thyroid gland

Abstract ID: 43-1/04

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Introduction: With a frequency of occurrence of approximately 5% of differentiated thyroid carcinomas, Hurthle cell oncocytoma is not a common appearance. Additionally, up to date, only 9 primary mucinous carcinomas of the thyroid gland have been officially recorded. We present a rare case of concomitant mucinous thyroid carcinoma and Hurthle cell oncocytoma.

Case presentation: A 60-years-old female, initially, in 1996, was diagnosed as struma nodosa euthyreotica. The diagnosis was confirmed with several noninvasive and invasive examinations such as echosonography, ^{99m}Tc scintiscan and FNAB (claiming no atypic or metaplastic cells). In 2016, ultrasound and ^{99m}Tc scintigram showed a diffusely enlarged right thyroid lobe. Accordingly, FNAB was performed and the pathological report revealed type III classification (according to Bethesda system), with present Hurthle cell metaplasia. Total thyroidectomy followed and the final diagnosis was declared – Mixed mucinous carcinoma and Hurthle cell oncocytoma of the thyroid gland, stage III with affected several right cervical lymph nodes. Furthermore, high specific tumor markers were observed TG >300U/ml. MIBI whole-body scan presented distant pulmonary metastases with a lesion in the left lung. ^{99m}Tc-MDP static whole-body bone scan excluded distant bone metastasis. 100mCi therapeutic I¹³¹ were administered. Control I^F whole-body scan pointed out the same left lung lesion and small amount of additional residual thyroid tissue. The treatment resulted in significant tumor marked decrease (TG <20U/ml), and additional chemotherapy due to the mucinous component was included. Unfortunately, death occurred a year later due to metastatic cerebral lesions.

Conclusion: Infrequent types of thyroid carcinomas and specific cell combinations can occur. Further research is needed in order to establish the optimal diagnostic and therapeutical algorithms.

Keywords: Thyroid carcinoma, Mucinous carcinoma, Hurthle cell oncocytoma

A rare case of a very large well-differentiated retroperitoneal liposarcoma

Abstract ID: 43-1/05

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Introduction: Retroperitoneal liposarcomas are rare malignant mesodermal tumors of the adipose tissue. They are challenging to treat because of their location, size, high recurrence rate and non-specific clinical picture.

Case presentation: A 55-year-old woman has been noticing bloating and abdominal distention for a year and has gained 10 kg during that period. She is referred to a gynecologist for examination who finds a non-typical formation in her abdomen after which she is admitted in the hospital. Her blood work shows Erythrocytopenia ($3.46 \times 10^{12}/l$), Lymphocytopenia (10,8%), Granulocytosis (83,8%), low Haemoglobin (109), and a normal range of tumor markers. A CT scan of the abdomen and pelvis demonstrates a large formation which is dislocating the intestinal loops cranially, the rectum backwards to the right, the uterus ventrally to the right and distally compresses the urinary bladder without evidence of wall infiltration. Operative surgery is performed for treatment. In situ the atrophied uterus and adnexa with elongated ligaments are located on a huge retroperitoneal formation. A total hysterectomy with the adnexa and tumoral extirpation is performed while maintaining the integrity of its capsule. The histological findings of the surgical biopsy determine a highly differentiated sclerosing retroperitoneal liposarcoma. Macroscopically, the formation is an encapsulated, lobulated mass measured 36x23x14 cm with soft-elastic consistency. At her 4 year follow-up, the patient is declared disease free.

Conclusion: In the clinical case for this large well-differentiated retroperitoneal liposarcoma, the complete resection of the tumor and the infiltrated organs is the chosen course of treatment. Chemotherapy is not effective and radiotherapy has limited efficiency due to the toxicity affecting adjacent intra-abdominal structures. Retroperitoneal liposarcoma is often diagnosed at later stages or misdiagnosed due to its rarity and the absence of associative symptoms until it grows large enough to compress the surrounding organs.

Key words: retroperitoneal, well-differentiated, complete resection;

C1 Jefferson fracture associated with an Occipital Condyle fracture

Abstract ID: 43-1/07

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Introduction: The atlas fractures account for 2-3% of all acute injuries of the cervical spine and 1-2 % of all spinal injuries. The injuries of the atlas often occur due to axial loading and could be associated with other fractures in the cervical spine - most commonly C2 fractures, vertebral artery injuries, or atlantooccipital instability. Patients who suffer from fractures of the atlas rarely present with neurologic deficits. In case of associated injury in the craniocervical region, the neurologic deficit is more likely and could be present as central cord syndrome, lower cranial nerve palsies, quadriplegia, or plegia. In the case of craniocervical instability, surgical treatment is indicated.

Case Presentation: A 59-years-old male patient was admitted to the Department of Neurosurgery at “St. George” University Hospital with neck pain after a motor vehicle accident. The patient had no neurologic deficit. The computed tomography discovered a Jefferson fracture of C1 vertebrae, fracture of the occipital condyle, and fractures of both parietal bones. Due to the type of fractures in the craniocervical junction and the craniocervical instability, occipital-cervical fusion was advocated. Intraoperatively pathological hypermobility of the atlantooccipital junction was presented. Occipital-cervical fusion was performed with lateral mass screws in C3, C4, and C5 vertebrae. Postoperatively the vertebral syndrome had been reduced, and the VAS score had been significantly improved. The patient was mobilized and was discharged without neurological deficit.

Conclusion: C1 fractures could be associated with other cervical fractures. The risk of upper cervical instability is greater if the C1 fracture occurs simultaneously with other fractures of craniocervical region. While the majority of these injuries can be treated with nonoperative immobilization, some fracture require surgical fixation or fusion.

Key words: atlas fracture, occipital-cervical fusion, cervical vertebrae, occipital condyle fracture

Pathological fracture of femur due to metastatic follicular thyroid carcinoma

Abstract ID: 43-1/12

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Introduction: Bone is the third most common site of metastasis, following the lung and liver. Bone metastasis can be osteolytic or osteosclerotic. Osteolytic lesions are seen in multiple myeloma, breast cancer, renal cell carcinoma, melanoma, non-small cell lung cancer, non-Hodgkin lymphoma, and, thyroid cancer. Follicular thyroid cancer can spread via a hematogenous route and, thus bone metastasis can be expected. We present a case of follicular thyroid carcinoma initially diagnosed as pathological femur fracture due to distant bone metastasis.

Case presentation: A 65-year-old woman complained of pain in the left hip without any prior history of trauma. The patient's medical history was positive for a solitary benign euthyroid nodule, which was initially investigated in 1984 and regularly followed with fine-needle aspiration cytology (FNAC) and ultrasound. A CT scan and X-Ray of the pelvis showed a subtrochanteric, irregular, well-defined osteolytic lesion lacking marginal sclerosis at the diaphysis of the left femur. The lesion was 7 cm long and consistent with a secondary metastatic deposit. Bone scintigraphy with 99mTC-MDP showed pathologic accumulation in the subtrochanteric area of the proximal metaphysis of the left femur. Core biopsy of the lesion was performed. The pathology report suspected a possible plasmocytoma, positive for CD138 on immunohistochemistry staining. The patient underwent surgical resection of the metastatic bone lesion. The histopathology report revealed metastatic thyroid carcinoma which was positive for thyroglobulin and negative for CK19 on immunohistochemistry.

Total thyroidectomy was performed and, histopathological analysis revealed Follicular thyroid carcinoma. The patient received two doses of I¹³¹ Radioablation Therapy(RAI) and substitution therapy with levothyroxine was administered.

Conclusion: When evaluating metastatic osteolytic bone lesions, it is important to consider a primary follicular tumor of the thyroid gland..

Key words: follicular thyroid carcinoma, osteolytic bone metastasis, thyroid nodule;

The negative impact of early tapering in treatment of toxoplasma lesions

Abstract ID: 43-1/13

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Introduction: Ocular toxoplasmosis is one of the most common cause of infectious chorioretinitis. Depending on retinal location, this condition may cause substantial vision impairment. The treatment includes both antimicrobial drugs and corticosteroids and is maintained for 4–6 weeks.

Case presentation: A 25-year-old male presented to our department with blurry vision in the left eye for the last month. He had a history of ocular toxoplasmosis for which he was under care; his visual acuity increased at the beginning of the treatment but he stopped using his medication one week after. His symptoms were becoming worse thereafter. His best corrected visual acuity was 0.9 in the right eye and 0.6 in the left eye. Anterior segment of both eyes was unremarkable. IOP was 15 mmHg in the right eye and 13 mmHg in the left eye. Fundus examination was normal in the right eye, while the left eye overall had vitritis and also two active lesions of focal retinochoroiditis located on the optic nerve head. OCT of the left eye showed increased thickness in the superficial layers of the retina with hyper-reflective particles in the vitreous adjacent to the retina. According to ETDRS chart, retinal thickness that was passing over the lesions was 156 and 96 μm . Serum toxoplasmosis antibody titres were 270 IU/mL for IgG. The patient was treated with oral antibiotics and prednisolone. After 1 month of follow up, the patient's visual acuity was increased and the fundus examination showed totally clear vitreous and white inactive retinal choroiditis scars.

Conclusion: Herein we stated a patient of two active toxoplasmic retinochoroiditis lesions in outside temporal vascular arcade, close to the optic nerve head. We also mentioned the negative effect of early tapering of the treatment in this case of recurrence.

Key words: ocular toxoplasmosis, retinochoroiditis, posterior uveitis

Inferior vena cava resection and ligation: a life-prolonging treatment option for patients with renal cell carcinoma with venous extension

Abstract ID: 43-1/18

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Introduction: Renal cell carcinoma (RCC) extends into the inferior vena cava (IVC) lumen and forms a tumor thrombus in approximately 4-10% of cases. Radical nephrectomy and tumor thrombectomy are the treatment of choice. However, segmental IVC resection is indicated if the tumor thrombus invades the endothelium or the thrombus is large, adherent and chronically obstructing the caval lumen.

Case presentation: A 62-year-old patient presented with night sweats and no other symptoms. Physical examination revealed tenderness in the right costovertebral angle and a palpable mass in the right flank. On contrast-enhanced CT of the abdomen, in the level of the right kidney, a large, heterogeneously dense, soft tissue mass was detected. 9.5x6.2cm in size, with irregular borders, the mass was highly contrast-enhancing, indicative of RCC. On venography, the IVC was dilated, the diameter being 6.4cm, with continuous tumor infiltration pre-hepatically, with a predominantly necrotic component and presence of tumor thrombus. The patient was treated surgically, with a midline laparotomy approach. The tumor thrombus extended to about 5cm below the liver; it was large and adherent to the vessel wall. The right renal vein was ligated, followed by resection of the IVC above the tumor thrombus, into healthy lumen. The tumor and right kidney were dissected posteriorly and the pathological substrate was removed en bloc. Finally, the IVC was ligated proximally, below the level where the left renal vein drains. Post-operatively the patient didn't have peripheral edema or other complications and was discharged after 6 days. One year later, he remains in remission and is doing well.

Conclusion: IVC resection and ligation can be a life-prolonging treatment for patients with RCC with venous extension, where tumor thrombectomy or tube grafting isn't possible. Due to collateral circulation via the azygos and hemiazygos veins, patients may suffer no significant complications from the ligated IVC.

Keywords: inferior vena cava, renal cell carcinoma, tumor thrombus

A Case Report of a Warthin's Tumor Diagnosed by Fine Needle Aspiration Cytology

Abstract ID: 43-1/19

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Introduction: Papillary cystadenoma lymphomatosum, also known as Warthin's tumor is a benign neoplasm of the parotid gland arising commonly in the lower pole of the gland as a slow growing asymptomatic mass. It comprises 15-30% of parotid tumors. It occurs most commonly in men in their 5th or 6th decade who are smokers. 10% of Warthin's tumors are bilateral. Fine Needle Aspiration Cytology (FNAC) is a minimally-invasive and cost-effective way to determine the true nature of parotid masses.

Case Presentation: A 59-year-old woman came to our institution because of a slow growing palpable firm mass in her left lower parotid region. The lesion was well circumscribed and spanned from the upper third of the left sternocleidomastoid muscle to the mandibular angle measuring 25 x 18 mm in size. Ultrasound guided FNAC of the mass was performed in an aseptic manner. The process was repeated 2 times and both times we received a droplet of muco-sanguinous content out of which 2 smears were prepared. One was stained with the method of Papanicolaou (PAP), and the other smear with the method of May-Grünwald-Giemsa (MGG). From the rest of the material in the needle and syringe, a cell block was prepared with the plasma-thrombin method. The material from the cell block was standardly processed as a normal biopsy material. On microscopy of the smears there was a dense amorphous substance in which a scarce lymphoid population of mature lymphocytes were identified. In-between those cells, there were multiple benign oncocytic cells with peripheral palisading. From these signs the cytomorphology of the smear was consistent with a benign Warthin tumor.

Conclusion: FNAC may be utilized as a reliable diagnostic method to distinguish rare parotid tumors as shown in this case with the papillary cystadenoma lymphomatosum. It also proves valuable in the prognosis and treatment plan of the patients.

Keywords: Parotid gland, Warthin's tumor, Fine needle aspiration cytology, pathology

A case of cervical glassy cell carcinoma in a young adolescent patient

Abstract ID: 43-1/20

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Introduction: Glassy cell carcinoma is an uncommon, aggressive type of adenosquamous carcinoma of the uterine cervix, which is considered to originate from the subcylindrical reserve cells of the cervix. The incidence of glassy cell carcinoma ranges from 0.2 to 9.3% of all cervical cancers and 2 to 30.2% of cervical adenocarcinomas.

Case presentation: A young adolescent patient presented with pelvic pain and abnormal vaginal bleeding. Consequent imaging (CT and MRI) and pathohistological analysis of the biopsy and explorative curettage showed glassy cell cervical carcinoma (GCCC). The patient was preoperatively evaluated and staged as FIGO/IBI. A radical hysterectomy was performed two weeks later. Several weeks later the patient was appointed for concurrent chemoradiotherapy. The human papillomavirus (HPV) test that was done before the operation was positive for HPV type 39, that is a high-risk type with a small incidence of less than 5% in invasive cervical cancers. The patient tolerated the treatment well. She had a complete clinical and therapeutical response, and was kept on regular follow-ups thereafter.

Conclusion: Glassy cell cervical carcinoma is a rare histologic type of cervical cancer that presents at a younger age and is associated with high risk for failure in treatment. Glassy cell cervical carcinoma has poor prognosis compared to the squamous cell type. Radiation therapy is associated with decreased risk of recurrence.

Key words: Cervical cancer, glassy cell carcinoma, uterine cervix, human papillomavirus

A case report of an adenoid cystic carcinoma of the breast diagnosed by fine-needle aspiration biopsy

Abstract ID: 43-1/22

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Introduction: Adenoid cystic carcinoma (ACC) is a rare malignant neoplasm of the breast. It is a special subtype of a triple negative breast cancer characterized by a slow progression, low malignant potential, rare lymph node involvement and a favourable prognosis. Typically, the tumor is localized near the areola. Although the radiologic findings are non-specific for ACC, the diagnosis can be made with fine-needle aspiration biopsy (FNAB).

Case presentation: A 67-year-old postmenopausal woman was referred to our institution with a palpable mass located in the left breast. On mammography the findings were non-specific. The physical examination of the left breast revealed a lump in the outer lower quadrant near the areola. Furthermore, another lump was noted in the upper quadrant of the left axilla. The ultrasonography disclosed a sharply margined, hypoechoic mass measuring 25x20 mm in the left breast and an indistinguishable induration measuring 15x10 mm in the left axilla. Fine-needle aspiration biopsy was performed on both lesions. Cytological examination of the left breast revealed numerous single and grouped small cells with notable signs for malignancy. The epithelial cells were oriented around solid eosinophile spheres of basement membrane material - hyaline globules. Part of the cells showed small atypical intracytoplasmic vacuoles or large acidophilic nucleoli. Cytologic examination of the left axilla revealed fragments of connective and fat tissue. From the rest of the material in the syringe, a cell block was prepared with the plasma-thrombin method. The material from the cell block was standardly processed as normal biopsy material. The final diagnosis, given the above findings, was left adenoid cystic carcinoma.

Conclusion: The purpose of this case is to portray the significance of the cytohistologic diagnosis in an otherwise non-conclusive radiological and ultrasonographic findings. Awareness of this type of breast tumor is important from the point of view of surgical management.

Keywords: adenoid cystic carcinoma; breast; fine-needle aspiration biopsy; cell blocks

An unusual case of Kohler's disease in a 6-years old boy with osteomyelitis

Abstract ID: 43-1/27

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Introduction: Kohler's disease, also known as juvenile osteochondrosis of the tarsal navicular bone, is a self-limiting idiopathic condition. It is a rare disease that only affects children, primarily boys aged four to seven. Kohler's disease is caused by avascular necrosis of the navicular bone during a child's early development. The majority of cases are unilateral, with only 15% to 20% being bilateral.

Case Presentation: A 6-year-old male patient with a high fever, right foot pain, and inability to bear weight, with no history of trauma or systemic illness, is admitted. A physical examination reveals that he has a diffuse skin rash all over his body, most notably in his groin and right foot. There is also bilateral conjunctivitis, a dry and coated tongue, and a slightly hyperemic pharynx. Additionally, erythematous skin and swelling were discovered, particularly on the right foot. The boy had pain in his right dorsomedial foot and a swollen big toe. The affected area was warm and tender to palpation. The left foot was also swollen but not tender to palpation. An X-ray and ultrasound of his feet revealed collapsed, flattened, fragmented, and sclerotic navicular bones, indicating Kohler's disease. Aside from osteochondritic changes in the navicular bones, a CT and MRI of his feet revealed intraosseous edema within the first metatarsal bone, as well as a stress fracture of the proximal head of the first metatarsal bone. Based on these findings, osteomyelitic changes were surgically treated.

Conclusion: We present a clinical case and radiographic findings of bilateral Kohler's disease using CT, MRI, and ultrasound as modern radiographic techniques as opposed to X-ray. Although Kohler's disease is rare, it should be considered in the differential diagnosis of foot pain because it may avoid unnecessary tests and treatments.

Keywords: Kohler's disease, juvenile osteochondrosis, navicular avascular necrosis

Selection of patients with cervical intraepithelial neoplasia (CIN) for carbon dioxide (CO₂) laser vaporization

Abstract ID: 43-1/29

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Institution: University Clinic of Gynecology and obstetrics, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Worldwide, cervical cancer is both the fourth most common type of cancer and the fourth most common cause of death from cancer in women. Papanicolaou test and liquid based cytology were prevailed by Human papilloma virus (HPV) testing as a primary screening test for cervical carcinoma. After the histologic diagnosis of CIN there are several ablative and excisional treatments available.

Case presentation: This is a case presentation of twenty four nullipara with an explanation of the method of her selection, colposcopic findings and technique of the operative procedure. Transformation zone type 1 was seen during colposcopy and Swede score: 8. Iodine negative zone and leukoplakia (lesion entirely visible) were also detected.

Conclusion: CO₂ laser vaporization is a safe and effective method for treatment. A very important thing is the pre-operative patient selective proper technique, close follow-up and adequate treatment of failures.

Key words: Carbon dioxide laser vaporization, Cervical intraepithelial neoplasia

3 C - section with complication of colporrhexis

Abstract ID: 43-1/31

Authors: MARTINA STOJKOVA, Solunka Jovova, Goran Dimitrov

Institution: University Clinic of Gynecology and obstetrics, University of „St. Cyril and Methodius”, Medical faculty – Skopje, N.Macedonia

Introduction: Cesarean section is a common obstetric operation and an important method for saving the lives of mothers and their neonates in dangerous situations. Nevertheless, cesarean section has a higher risk and might have more complications compared with natural delivery. A reasonable choice of delivery method is important for maternal and neonatal health. The incidence of complications after cesarean section for mothers and neonates significantly increases after every repeat cesarean section. One of the complications is a tearing of the vaginal wall, vaginal laceration also known as colporrhexis. Primary spontaneous colporrhexis is rare a condition characterized by rupture of the upper one third of the vaginal wall especially in women's with scared uterus - repeated cesarean section – two and more.

Case presentation: We report a case of an 18-year-old patient who had two previous cesarean sections and no other ongoing conditions. She underwent on third cesarean section in one regional hospital. She presented with regular uterine activity. After the surgery, she presented with vaginal bleeding and pain, and immediately was transferred in university main national hospital. She was admitted there with wide hemorrhage and dropped blood pressure. She was admitted immediately in operating theater and quadri laparotomy was obtained. Intraoperative diagnosed with colporrhexis and intraabdominal and vaginal bleeding. She received Hysterectomy, so the bleeding was stopped.

Conclusion: Every repeat cesarean section with regular contractions is associated with significant intraoperative morbidity as colporrhexis.

Keywords: Cesarean section, Pregnancy, Colporrhexis, Hysterectomy, Management.

The first heart transplantation performed in Macedonia

Abstract ID: 43-1/34

Authors: TIJANA STOJANOVSKA, Sashko Jovev

Institution: University Clinic of State Cardiac Surgery,

Introduction: Heart failure is a condition in which the heart is unable to pump an adequate supply of blood to the body. Cardiac transplantation is the treatment of choice for many patients with end-stage heart failure, who cannot be treated by any other medical or surgical means. More than 5000 cardiac transplants occur each year around the world, while up to 50,000 people are candidates for transplantation. In May 2020 in Macedonia was performed the first cadaveric heart transplantation.

Case presentation: We present a 52 year old male patient diagnosed with ischemic dilated cardiomyopathy. The patient is a long-term smoker and has positive family history of CAD. Transthoracic echocardiography was performed and revealed reduction of EF (20%). Three months earlier the patient has undergone CABGx1, due to coronary artery disease. The ischemic cardiomyopathy, status post CABGx1 and biventricular HFrEF of the patient were indications for cardiac transplantation. The patient was added to the national transplant waiting list and was appropriately prepared and examined according to the protocol. After finding a suitable donor heart, a heart transplantation with biatrial type of surgical approach was performed. During the following period after the transplant the patient had several mild and severe complications, which were treated accordingly. The procedure was successfully performed, and the patient is in good condition, despite his postoperative complications.

Conclusion: The first heart transplantation in Macedonia was a milestone for Macedonian cardiac surgery. Heart transplants are lifesaving and lifegiving. Raising the awareness about the importance of the decision for organ donation plays a huge role in the process of transplantation and saving lives.

Keywords: heart transplantation, ischemic cardiomyopathy, organ donation

A case report of radiologically occult, nonpalpable Intraductal Papilloma diagnosed by nipple discharge smear analysis

Abstract ID: 43-1/38

Authors: MINA KOVANDZIC, Gloria Gjorgova, Nina Karadjinova, Ljube Ivkovski

Institution: Diagnostic Laboratory for Cytology and Histopathology “HISTOLAB”, Skopje, N. Macedonia

Introduction: Intraductal papilloma is a relatively rare, benign tumor arising from abnormal proliferation of breast duct epithelium. It can affect women of all ages, but more predominantly women with positive family history, history of contraceptive use or hormone replacement therapy. Patients may present with bloody nipple discharge and palpable breast mass, but most of them are asymptomatic. As a high-risk precursor lesion, proper diagnosis of intraductal papilloma is of tremendous importance.

Case Presentation: A 64-year-old menopausal women was referred to our institution for bloody nipple discharge and palpable lesion in the right breast. No abnormality was presented on mammography. The physical examination of the right breast revealed two mastopathic, clearly demarcated lesions and dark-brown nipple discharge when pressure was applied. No axillary lymphadenopathy was present. Left breast examination was unremarkable. The ultrasonography of detected lesions revealed two solid masses - one in the upper-lateral breast quadrant measuring 25x20mm, and one located more medially and lower measuring 18x15mm. Nipple discharge was collected and a fine-needle aspiration biopsy (FNAB) of both lesions performed. Microscopically, discharge smear showed numerous macrophages with foamy cytoplasm, and clusters and single enlarged ductal cells, with slight nuclear pleomorphism mixed with erythrocytes. Smears from FNAB showed rare mature lymphocytes, macrophages and fragments of fat and connective tissue of the breast. Atypical or malignant cells were not found. This cytomorphologic finding corresponds to diagnosis of intraductal papilloma. The patient was advised to perform a galactography and surgical excision of the lesion due to its nature and possible malignant alteration.

Conclusion: This case illustrates the significant role of cytology in definitive diagnosis of cases where both clinical and radiological findings are ambiguous or absent. Differentiating between benign and malignant breast lesions is challenging and requires excellent knowledge of cytology and both clinical and pathological correlation.

Keywords: benign breast tumor; nipple discharge; intraductal papilloma; papillary neoplasms

Report of a pregnancy after ovarian rejuvenation treatment in a patient with three previous IVF failures

Abstract ID: 43-1/03

Authors: MARTINA JANEVA, Yiğit Çakıroğlu

Institution: “Goce Delchev” University, Faculty of Medicine, Shtip, N. Macedonia
Acibadem Mehmet Ali Aydınlar University, Istanbul, Turkey

Introduction: Here we report a case of 28y woman with three previous abortions and three previous IVF failures who has been treated with IVF and preimplantation genetic testing for aneuploidy (PGT-A). Medical records of the patient were obtained from Acibadem University, Maslak IVF Unit and were evaluated retrospectively.

Case Presenttation: Patient’s past medical history and their physical examinations were normal. Her hysterosalpingographic examination was normal with bilateral patent tubes. The partner’s sperm parameters were normal with normal number of motile sperm cells. They both had chromosomal analysis revealing 46, XY for the male and 22ps + (46XX.22ps +) for the female. Their work-up did not reveal any risk factor that might cause recurrent pregnancy loss. After her admission to IVF Unit, they had been suggested IVF treatment with PGT-A due to previous recurrent pregnancy loss and IVF failures. In her first IVF trial, eventhough she had 10 quality blastocysts, next generation sequencing analysis revealed no genetically normal embryo. After this result they had been suggested ovarian PRP treatment to promote ovarian folliculogenesis. After getting detailed informed consent from both of the couple, she was performed ovarian PRP under sedation anesthesia. 2 cycles after ovarian PRP treatment, she had been started a new IVF cycle resulting in 7 good quality blastocysts. This time, she had 5 genetically normal embryos. 12 days after transfer of two genetically normal embryos, she had a positive pregnancy test. She is now at 30 th weeks of gestation and her follow-up is uneventful for now.

Conclusion: As a conclusion, patients with previous IVF failures and who had a history of genetically abnormal embryos can be suggested new experimental treatment modalities. PRP might be one of these procedures after giving detailed information and getting informed consent. But still these interventions need future research.

Keywords: IVF, Platelet rich plasma, Fertilization, preimplantation genetic testing for aneuploidy



Придружете ни се да го прославиме животот заедно

Рош е глобален пионер во фармацевтската индустрија и дијагностиката, лидер во персонализираната медицина. Компанија која постои 125 години во светот и 22 години во Македонија. Обединетите сили на фармацијата и дијагностиката под еден покрив го направија „Рош“ лидер во персонализираната медицина – стратегија чија цел е лекувањето да се приспособи кон секој пациент на најдобар можен начин. „Рош“ е најголемата биотехнолошка компанија во светот, со вистински диференцирани производи во областа на онкологијата, имунологијата, заразните болести, офталмологијата и болестите на централниот нервен систем. Компанијата е насочена кон подобрување на пристапот на пациентите до медицински иновации, преку соработка со сите релевантни чинители. Лидер во ин-витро дијагностика, терапии за тумори и во контролата/мерењето на шеќер во крвта. Како на глобално ниво, така и во Македонија нашите активности се насочени кон обезбедување на најсовремени иновативни терапевтски решенија за доброто на пациентите. Прецизната дијагностика и персонализираната медицина е клуч за успешен третман. Рош исто така работи на идентификување на генетски и туморски биомаркери кои овозможуваат персонализиран пристап во третманот за секој пациент поединечно. Оваа информација ќе им помогне на лекарите да започнат таргетиран и ефикасен третман без одложување, а со тоа подобрување на благосостојбата на пациентите и намалување на трошокот на здравствениот систем. Тоа е главната причина зошто Рош е автентичен и препознатлив за разлика од останатите.



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LECTURES



Evaluation of Hearing (Audiometry), Types of Hearing Loss and Utilization of Hearing Aids

Lecturers: Aleksandar Avramovski MD, Sofija Tudjarova Karadjinova MD, Aleksandar Karadjinov MD, Nina Karadjinova MD

Date: 21.05.2022, Saturday

A brief overview of the anatomy and physiology of the outer, middle and inner ear and their interrelationships in the listening process. The auditory system, how it is constructed and divided:

- Peripheral part - outer, middle and inner ear, and vestibulocochlear nerve.
- Central part - central auditory pathways, subcortical and cortical auditory centers.

Hearing, as an ability to transform sound waves into nerve impulses, their conduction through neural pathways and their identification and integration into the auditory cortex. Components that participate in the physiology of hearing and ways of conducting sound waves: aero-tympanic, aero-cranial, cranial and cranio-tympanal.

Ways and methods of hearing examination:

- Subjective methods of hearing testing: acoumetry, audiometry.
- Objective methods of hearing examination: tympanometry, stapes reflex, otoacoustic emission - UAE, Electrocochleography - ECOG, Auditory brainstem response - ABR and auditory steady-state response - ASSR.

Audiometry - a hearing test for air and bone conduction. Degrees of hearing impairment: from mild hearing loss to profound hearing loss and types of audiograms: conductive reduction, perceptual reduction and mixed hearing reduction. The range of the human ear and the frequencies it can register.

Indications for wearing hearing aids and how to choose them. Despite the great advances in implantable technology, hearing aids are still the most adequate solution for the treatment of a large number of hearing impaired patients. The hearing aid is indicated for every patient who has a hearing impairment that interferes with normal social communication, and the impairment problem itself cannot be cured with medication or surgery. The choice and type of hearing aids depend on the needs of the user and the type of hearing impairment.

Complex Hand Injuries - Think Salvage rather than Amputation

Lecturer: Ass. Prof. Sofija Pejкова MD, PhD

Date: 21.05.2022, Saturday

The hand and its constant involvement and necessity in our daily functioning makes it vulnerable and exposed to injury. Hand injuries are one of the most common types of injuries, from simple fingertip injuries to complex injuries involving multiple tissue structures. The extent of the injuries correlates with the mechanism of the injury. Upper limb injuries are rarely life-threatening, but failure to manage them properly can result in severe hand dysfunction. The purpose of surgical treatment is to provide a functional arm. In severe hand injuries, the most important is the early optimal management including the reconstructive procedures that will ensure the function of the hand after reconstruction.

A retrospective observational study was performed at the University Clinic for Plastic and Reconstructive surgery in North Macedonia in the period January 2018 - January 2021. From a total of 571 patients with traumatic upper extremity injuries, 162 (28%) patients had complex hand injuries. The complex hand injuries were defined as severe injuries of the bones, tendons, and neurovascular structures of the hand. For this study, we analyze data of 74 patients with complex hand injuries in which reconstructive procedures were performed. The Patient-Reported Outcomes Measurement Information System (PROMIS) was used to evaluate the pain-related functional outcome.

Results: In this study we evaluated 74 (71,15%) of total 104 patients with severe hand injuries, who met the inclusion criteria. The mean age was 46.9 years (range from 18-81), 95,94% (n=71) of them were male and 4.06% were female (n=3). The follow-up period on average was 21 months (range 9-33). The Patient-Reported Outcomes Measurement Information System (PROMIS) showed lower T-score of 56.9 (SE-1.3) These patients have notable pain improvement with time, consequently better functionality, and range of motion of the hand. The results from our study show that the PROMIS score is in correlation with the severity of the injury and the surgical procedure.

Conclusion: According to our analysis, reconstruction should be the method of choice in severe traumatic hand injuries due to its significance in achieving better long-term quality of life and lower post-surgical complications and pain. Other than the surgical technique, significant result-impacting factors for better functional outcome are patient compliance and intensive physical therapy.

Multidrug-Resistance in Bacteria, Treatment Options and an Alternative to Antibiotics

Workshop Leader: Prof. Ana Kaftandjieva MD, PhD

Date: 21.05.2022, Saturday

As a consequence of antibiotic overuse and misuse, multidrug-resistant bacteria (MDR) have appeared, especially in hospital setting. Nosocomial infections cause prolonged stay, disability, and economic burden. Frequently prevalent infections include central line-associated bloodstream infections, catheter-associated urinary tract infections, surgical site infections and ventilator-associated pneumonia.

The most common cause of nosocomial infections are: Methicillin resistant *Staphylococcus aureus* (MRSA), Vancomycin resistant *Enterococcus* (VRE), MDR *Pseudomonas aeruginosa* and *Acinetobacter baumannii*, and extended spectrum beta-lactamase and carbapenemase-producing *Enterobacterales*. Nosocomial infections caused by these bacteria pose a serious problem due to limitation of treatment options. No newer antimicrobial agents against multidrug resistant bacteria are available or under investigation. The only exceptions are linezolid, some newer glycopeptides and daptomycin, which are active against MRSA and VRE, tigecycline, active against MRSA, VRE, *A. baumannii* and ESBL-producing *Enterobacterales*, and colistin which is active against ESBL and carbapenemase-producing *Enterobacterales*, MDR *P. aeruginosa* and *A. baumannii* isolates.

As antibiotic research and development stagnate, rational policies for prescribing existing antibiotics plus strict infection control measures are crucial for controlling nosocomial infections caused by MDR bacteria. In a situation where treatment options are limited, an alternative therapy should be considered. Essential oils can be used as an alternative, as well as, maggot therapy, photodynamic therapy, silver ions, probiotics, bacteriophages etc. They are not a real substitute for antibiotics and their effect can't be compared to that of antibiotics, but in some cases alternative therapy can help prevent and combat bacterial infections.

WORKSHOPS PART I



Airway and Breathing Management - Hands-on Workshop

Workshop Leader: Doc. Vesna Durnev MD, PhD

Workshop Assistant: Doc. Dafina Karadjova MD, PhD

Date: 22.05.2022, Sunday

Good airway management is an essential part of basic life support (BLS) and advanced life support (ALS). In a patient who is breathing spontaneously, supplemental oxygen may prevent a cardiac or respiratory arrest. Recognizing airway and breathing problems promptly and responding with appropriate interventions will ensure hypoxic damage to vital organs is minimized.

This workshop considers the management of airway and breathing in the compromised patient. Review of the normal airway, airway obstruction with recognizing an airway problem, basic airway opening techniques, oropharyngeal suctioning, using airway adjunct as oropharyngeal and nasopharyngeal airway, supraglottic airway devices, laryngeal mask airway. Practice of ventilation with mouth to mouth (nose) ventilation, using bag-valve device (automatic mechanical ventilators and tracheal intubation as the best advanced airway control.

Participants will practice and deepen their knowledge through a case study.

At the end of the workshop, the participant will be able to recognize airway and breathing problems promptly and responding with appropriate interventions; discuss potential causes of airway obstruction; recognize airway problems and determine any degree of airway obstruction and assess the patient by looking, listening and feeling.; respond to airway and breathing problems with appropriate interventions; basic airway opening maneuvers of head tilt, chin lift and jaw thrust may be all that is required to relieve airway obstruction; using airway adjunct as oropharyngeal and nasopharyngeal airways; appreciate advanced airway and breathing issues with assisted ventilation achieved by several methods including mouth-to- mouth or nose, mouth-to-mask, bag-valve device attached to facemask, LMA or endotracheal tube or automatic mechanical ventilator. Oxygen should be administered with any ventilation attempts.

ECG Ups & Downs – that's what's keeping us alive!

Workshop Leader: Research Ass. Nikola Gjorgov MD, PhD, FESC

Date: 21.05.2022, Saturday

An ECG is a line graph that shows changes in the electrical activity of the heart over time. Many diseases of the heart, the most important of which – myocardial infarction, manifest themselves as certain abnormalities on the ECG. Therefore, interpretation of an ECG is an essential skill that any true physician should master and possess in his/her arsenal.

During this workshop participants will learn how to approach any ECG together with the common abnormalities they may encounter. The workshop will consist of basics of the ECG, how it is recorded and the basic physiology. When this is mastered, we will continue with explaining how to read an ECG, through detailed analysis of patient details, situation details, rate, rhythm, axis, P-wave and P-R interval, Q-wave and QRS complex, ST segment, QT interval and T-wave. We will go through the most common ECG abnormalities such as arrhythmias, congenital conduction heart abnormalities, cardiac hypertrophy, conduction abnormalities etc., and will pay special attention to life-threatening ECG patterns that must be recognized such as myocardial infarction, tamponade, as well as ventricular tachycardia and fibrillation.

At the end of the workshop, participants should have acquired the most important skills enabling them to read and understand an ECG and feel confident as a doctor.

Becoming a surgeon: Suturing & Surgical Knots

Workshop Leader: Prof. Smilja Tudjarova Gjorgova MD, PhD

Date: 21.05.2022, Saturday

The acquisition of basic surgical skills (BSS) is an essential element of every doctor's professional development, ensuring safety and confidence in the clinical environment. Medical students are usually taught how to suture at the beginning of the clinical portion of their education. However, the timing and process through which they are taught vary greatly across institutions and their mentors, and the time from instruction to suturing in the clinic may be many months, with questionable skill retention later on.

The goals of suturing are to bring two edges together by eliminating the dead space to promote healing, to avoid wound infection, to assist hemostasis and minimize poor scar formation. In order to become a suturing master, the students need to:

- Have a thorough knowledge of anatomy
- Learn how to select appropriate surgical procedure for the condition they need to treat, as well as how to select the equipment and operating environment
- Learn about post-operative care and how to deal with complications.

During this workshop, participants will learn basic surgical skills and have hands-on practice. Every participant will learn the use of the main surgical instruments and their proper handling. They will learn suturing a lesion with proper technique and different suturing types and patterns. They will learn instrument knot tying of the placed sutures.

Human Semen Evaluation - Spermogram

Workshop Leader: Irena Kostadinova Petrova MD, PhD, MSc

Workshop Assistants: Ljubica Tasheva MD, Natasha Stojkovska MD

Date: 21.05.2022, Saturday

Examination of the fertile potential of the ejaculate gives solid results in assessing the fertility of the man and the chances of getting pregnant. In marital infertility, the man participates just like the woman, with 50%. The analysis of human ejaculate is a fairly simple procedure recommended by gynecologists in the treatment of marital infertility. Also, this analysis, spermogram, is performed in conditions of varicocele, testicular injuries, after vasectomy and after some infectious diseases.

The spermogram involves microscopic analysis of several parameters of the human ejaculate, such as the concentration of sperm in the ejaculate, the motility of the sperm and their morphological structure. Also there is macroscopic assessment of the volume, color, viscosity, liquefaction and pH of the semen. The analyzes are performed macroscopically and microscopically, in order to obtain a comprehensive insight into the fertile potential of the ejaculate.

At this workshop, participants will be able to learn how the analysis of certain parameters of the spermogram is performed, as well as to try to perform the analysis themselves. There will be an interpretation of the obtained results and analysis and discussion of the same.

Basic Ultrasound And Fine Needle Aspiration Biopsy Diagnosis Of The Thyroid Gland - Hands-on Training

Workshop Leader: Doc. Sinisa Stojanovski MD, PhD

Date: 21.05.2022, Saturday

Thyroid ultrasound (US) uses sound waves to produce pictures of the thyroid gland. It does not use ionizing radiation (non invasive) and is commonly used to evaluate thyroid nodules. US uses a small linear probe (transducer). High-frequency sound waves travel from the probe through the gel into the body. The probe collects the sounds that bounce back. A computer uses those sound waves to create a 2 or 3D image. Because US captures images in real-time, it can show the structure and movement of the body's internal organs. The images can also show blood flowing through blood vessels (doppler). US is very sensitive and detects nodules that cannot be felt on a physical exam. The minority of these may require further diagnosis. Because ultrasound provides real-time images, doctors may use it to guide procedures, including US guided fine needle aspiration biopsy (FNAB).

- During the workshop, all participants will acquire the following knowledge:
- basic thyroid gland US course
- basic thyroid gland FNAB course
- US features of thyroid nodular lesions

WORKSHOPS PART II



Trends in Aesthetic Medicine: Application of Hyaluronic Fillers and Mesothreads

Workshop Leader: Prof. Smilja Tudzarova Gjorgova MD, PhD

Date: 22.05.2022, Sunday

The world of aesthetic treatments has seen massive changes in the last decade. Thanks to lower costs and quickly visible results, people are opting more towards the non-invasive route such as hyaluronic fillers and mesothreads. Women nowadays are going for a more natural look when it comes to these enhancements. They don't want to look dramatically different. The new trend is to make small changes in their trouble areas instead of making major changes.

Injectable hyaluronic acid (HA) is a type of temporary dermal filler that is used to reduce the appearance of fine lines and wrinkles, facial folds, and to create structure, framework, and volume to the face and lips. Hyaluronic acid is found naturally throughout the body, with the highest concentrations in the joints, eyes, and skin. In the skin hyaluronic acid attracts water, which allows the skin to become more hydrated. As we age, the fat, muscles, bone, and skin in our face begins to thin. This loss of volume leads to either a sunken or sagging appearance of the face, fine lines, wrinkles, folds, and thin lips. The effects of injectable hyaluronic acid are seen immediately.

Applying surgical mesothreads is a new trend in aesthetic medicine. Threads are made of 100% biodegradable products and are used mainly for restoring the superficial changes in the skin that come with age, and for lifting the sagged tissues of the face, neck and other parts. After their implantation, they produce new collagen to tighten the loose tissues and smooth the visible lines and wrinkles. This procedure is not a substitute for surgical lifting, but gives very good results on light to medium loosening of the tissues when there are contraindications or no desire for surgical intervention.

This workshop will consist of the theoretical part and practical part – where you will see live demonstration of hyaluronic fillers and mesothreads application on a patient.

Wipeout Cervical Cancer - Surgical Treatment Options

Workshop Leader: Prof. Goran Dimitrov MD, PhD

Date: 22.05.2022, Sunday

Cervical cancer is the fourth most common cancer in the world among women. It usually has a slow progression from the condition of precancerous lesions, i.e. dysplasia. If cervical cancer is diagnosed, the type of treatment depends on the extent of the disease.

In dysplasia and non-invasive cancers operative treatments include:

- Conization - a surgical procedure in which an excision of a cone-shaped portion of the cervix is performed to remove a cervical lesion (either with a surgical or electric knife). This procedure is diagnostic and therapeutic.
- LLETZ and LLEP - in this procedure a wire in the shape of a loop with low voltage is used, which cuts the part that requires to be removed and prevents the bleeding at the same time.
- Laser ablation - malignantly altered parts of the cervix are destroyed through laser beam.

In invasive cervical cancers (depending on the stage of the disease), potential procedures include:

- Type I Hysterectomy (total abdominal, vaginal, laparoscopic) - used in the lowest stages of invasive cervical cancer. The main goal of this procedure is to remove the body of the uterus with the throat completely. May be accompanied by bilateral or unilateral salpingo-oophorectomy depending on the disease and age of the patient.
- Radical hysterectomy - involves the removal of genitals (body of the uterus, cervix, and both adnexa, upper part of the vagina) with surrounding structures (parametrium, lymph nodes). Radical hysterectomies can be classified into 3 systems (Piver-Ruttege-Smith marked as Class 1, 2 ..., EORTIC-GCG marked as Type I, II.... And Querleu Morrow classification marked as Type A, B ...)

During this workshop, participants will get acquainted with updated information about treatment modalities for cervical carcinoma and will see a video presentation of surgical procedures.

Peripheral Blood Smear Analysis

Workshop Leader: Ass. Prof. Zlate Stojanoski MD, PhD

Date: 22.05.2022, Sunday

In patient care, an accurate diagnosis is necessary. The literature confirms that 70% of clinical decisions, diagnosis and therapeutic response are supported by laboratory findings.

The basic laboratory studies are complete blood count and peripheral blood smear. Skillful interpretation of the peripheral blood smear result is important for successful clinical practice. The diagnostic importance of peripheral blood smear is enormous. It evaluates the morphology of blood cells in the peripheral blood, thus enabling the morphological diagnosis of numerous primary and secondary hematological diseases, as well as other blood-related diseases. Common clinical indications for peripheral blood smear analysis include anemia, leukopenia, or thrombocytopenia; unexplained leukocytosis, lymphocytosis, or monocytosis; unexplained jaundice or haemolysis, features of congenital haemolytic anemias such as splenomegaly, jaundice, or bone pain; suspicion of chronic or acute myeloproliferative disease; suspicion of organic failure such as kidney disease and liver disease; suspicion of chronic lymphoproliferative diseases, leukemic lymphomas, and evaluation of the therapeutic response in hemopathies and many other.

During the workshop, normal peripheral blood smears and the most common pathological peripheral smears painted by the method of May Grunwald Giemsa will be discussed.

Basic Laparoscopic Skills - Simulator Hands-on Training

Workshop Leader: Ass. Nikola Brzanov MD

Workshop Assistant: Vilijam Kitevski MD

Date: 22.05.2022, Sunday

Laparoscopic simulation has become an integral part of surgical training as it provides a safe method of acquiring core and psychomotor skills, which may be transferable to the operating room. Becoming adept at laparoscopic surgery is particularly challenging as it requires working in a 3D field based on a 2D screen image; a skill that often only comes with practice. This workshop teaches fundamental knowledge and technical skills to perform laparoscopic surgery procedures. It includes didactic sessions and hands-on skills training. Such skills as ambidexterity, depth perception, object handling and manipulation, hand movement of instruments, are involved in all the exercises.

The workshops consists of five specific simulation exercises incorporating most of the psychomotor skills necessary for basic laparoscopic surgery:

1. Ring Transfer - Lifting the six objects with a grasper with non-dominant hand and transferring the object midair to your dominant hand.
2. The Pipe Cleaner - Exercise consists of passing the pipe cleaner through the loops at different angles and heights.
3. Beads - Segregating beads by color and placing them into containers, an entry-level exercise for developing visuomotor coordination.
4. Numbers - Arranging numbered color blocks in the correct order. The blocks need to be rotated in order to be properly placed, which requires the involvement of both hands.
5. Ligature Knot - The module assists with practicing tying surgical knots and applying ligatures on a blood vessel like model.

Lights, Camera...ACTION! Be an Attending Physician for the Day

Workshop Leaders: Ron Blackmore MD, Tim Gaul MD

Workshop Assistant: Matt Kane MD

Date: 22.05.2022, Sunday

To be a healer requires dedication, knowledge, and experience. This workshop will strive to provide live-action practical experience interviewing, examining and diagnosing a patient while under the tutelage of an experienced US Physician. Utilizing an SP (simulated patient), you'll collect a brief anamnesis, perform a partial physical examination, 'order' laboratorija and imaging, review the results of your orders and formulate a treatment plan...just as if you were the attending physician in charge of the case.

Our Simulated Patient is a medical student trained to provide a history with clues to the diagnosis. As a team of three or four, your challenge will be to come to the right conclusion as evaluated by the US team.

Come and have an enjoyable time competing with one another while polishing your skills that will be necessary for the rest of your fruitful career.

Drs. Ron Blackmore and Timothy Gaul represent the North Macedonia US Physicians Project sponsored by Medical Education International. These two doctors will direct this workshop assisted by student doctor Matt Kane. Matt will use his background to memorize several 'illness scripts' and 'act out' the disease presentation at the simulated patient.

Drs. Blackmore and Gaul are seasoned US family physicians with experience in both the clinical and administrative worlds of medicine. Each will be available throughout the duration of the conference to discuss medical education, career planning and their lives in medicine.

WORKSHOPS PART III



Ophthalmologic Examination 101 – Funduscopy

Workshop Leader: Doc. Igor Isjanovski MD, PhD

Date: 22.05.2022, Sunday

Ophthalmoscopy, also called funduscopy, is a test that allows a health professional to see inside the fundus of the eye and other structures using an ophthalmoscope (or funduscope). It is done as part of an eye examination and may be done as part of a routine physical examination. It is crucial in determining the health of the retina, optic disc, and vitreous humor.

There are different types of ophthalmoscopy:

- Direct ophthalmoscopy. The patient is seated in a darkened room. The health care provider performs this exam by shining a beam of light through the pupil using an instrument called an ophthalmoscope. An ophthalmoscope is about the size of a flashlight. It has a light and different tiny lenses that allow the provider to view the back of the eyeball.
- Indirect ophthalmoscopy. The patient lies or sits in a semi-reclined position. The provider holds the eye open while shining a very bright light into the eye using an instrument worn on the head. The provider views the back of the eye through a lens held close to your eye. Some pressure may be applied to the eye using a small, blunt probe. The patient may be asked to look in various directions. This exam is usually used to look for a detached retina.
- Slit Lamp Ophthalmoscopy.

During 2 workshops lasting about 30 minutes, our participants will:

1. Learn to use a direct ophthalmoscope
2. Learn to identify key anatomical structures visible with a direct ophthalmoscope in the eye
3. Learn the parts and settings of the direct ophthalmoscope
4. Try to diagnose with the help of a direct ophthalmoscope

Ischemic stroke - etiology, pathophysiological mechanisms, clinical features, diagnosis and treatment

Workshop Leader: Prof. Anita Arsovska MD, PhD, *FESO*

Date: 22.05.2022, Sunday

Ischemic stroke is characterized by the sudden loss of blood circulation to an area of the brain, resulting in a corresponding loss of neurologic function. Acute ischemic stroke is caused by thrombotic or embolic occlusion of a cerebral artery.

Common stroke symptoms and signs are: acute onset of hemiparesis, facial paresis, hemisensory deficit, visual loss, aphasia, dysarthria, ataxia, decrease in the level of consciousness. Neurological examination includes confirmation of stroke symptoms presentation and establishment of stroke severity, using the National Institute of Health Stroke Scale (NIHSS) score to assist in prognosis and therapeutic selection. Diagnosis is based on emergent brain imaging with noncontrast computed tomography (CT) scanning, CT angiography and CT perfusion scanning, Magnetic resonance imaging (MRI) and carotid duplex scanning. Laboratory studies consist of complete blood count, basic chemistry panel, coagulation studies, cardiac biomarkers and toxicology screening. The goal for the emergent management of stroke is to complete the procedures within 60 minutes or less of patient arrival, such as assess airway, breathing and circulation (ABCs) and stabilize the patient as necessary, complete the initial evaluation and assessment, including imaging and laboratory studies and initiate reperfusion therapy, if appropriate.

Ischemic stroke therapies include fibrinolytic therapy, antiplatelet agents and mechanical thrombectomy. Treatment of comorbid conditions include reduction of fever, correction of hypotension/significant hypertension, hypoxia and hypoglycemia, and management of cardiac arrhythmias /myocardial ischemia.

The role of anti-IL5 therapy in patients with severe eosinophilic asthma (SEA)

Workshop Leader: Ass. Zoran Arsovski MD, MSc

Date: 22.05.2022, Sunday

An elevated blood eosinophil count is associated with an increased risk of asthma exacerbations (AE). Reslizumab as a humanized anti-IL5 antibody interrupts eosinophil maturation, stimulates programmed cell death and plays an important role in the treatment of SEA. Potential predictors of good asthma response to anti-IL5 therapy are: higher blood eosinophils, higher number of severe exacerbations in previous year, adult-onset asthma, nasal polyposis, maintenance OCS at baseline and low lung function (FEV1<65%).

The aim of this workshop is to evaluate the need for additional biologic (anti-IL5) therapy in severe eosinophilic asthma, to showcase the possible positive changes in clinical and laboratory tests and to present our first practical experience with this therapy in the Republic of North Macedonia.

We have evaluated the effect of anti-IL5 therapy in SEA regarding Absolute Eosinophil Count (AEC), Asthma Control Test (ACT), Forced Expiratory Flow in 1 sec (FEV1), Asthma Exacerbations (AE), eventual adverse events and side effects in our two patients (male/female) with SEA during 13 (f) / 11 (m) doses of Reslizumab. We determined AEC, ACT, FEV1 and AE at the beginning of the treatment and consecutively at every next treatment visit thereafter.

We found that Reslizumab improves asthma control, significantly reduces the use of concomitant asthma therapy and drastically reduces the AEC. After 11/13 monthly doses of Reslizumab in both patients an increase in FEV1 was noted, however the effect was more evident in the patient with lower baseline values of FEV1. During treatment with Reslizumab only 1 episode of AE requiring the use of systemic CS was detected in one patient after her last (13th) visit. A transient increase in Creatin Kinase was detected once in one patient.

Impact of the Doctor-Patient Relationship

Workshop Leader: Ass. Prof. Stojan Bajraktarov MD, PhD

Date: 22.05.2022, Sunday

As practice and research show, the doctor-patient relationship is a very important part of a doctor's visit and can change and implement care-enhancing solutions. The quality communication between the healthcare professional and the patient is the foundation of successful treatment.

The doctor-patient relationship is crucial, especially because the patient position is always personal and vulnerable. Therefore patients should feel the privilege of being accepted and be involved in clinician approaches with understanding. Unsuccessful relationships between clinician and patient cause frustration, dissatisfaction, inappropriate treatment, conflict etc. The doctor should evaluate and focus on quality relations and use certain listening techniques in order to understand the patient and gather the necessary communications.

The relationship between health professionals and patients is a specific form of social communication, which takes place with subtle emotional relationships in which it is equally important to respect the personality of both the professional and the patient. Empathy in quality communication with the patient results in a reduction in the patient's concern, fear, or suffering, thus achieving significant progress in the provision of health care and protection.

The attitudes of health practitioners over the years have constantly evolved, depended primarily on socio-cultural events, but also on technical and technological development in all spheres, including medicine. In the past, there was a vertical doctor-patient relationship, with an authoritative attitude of the doctor regarding the patient's health, and the patient was treated as an object from which he is expected to listen and perform the given actions. In recent decades, there have been intense social changes that lead to significant advances in medicine, improving the relationship, which becomes two-way communication, as a much more humane

relationship, which has elements of psychotherapeutic support since first contact, involving the patient in all stages of diagnosis and treatment.

Born too early – born too light – What to do in the first 10 minutes of life?

Workshop Leader: Prof. Aspazija Sofijanova MD, PhD

Date: 22.05.2022, Sunday

Preterm birth is a leading cause of death among infants worldwide. It is currently estimated that about 15 million babies are delivered prematurely each year (5-18% of all deliveries). Additionally the term low birth weight refers to a neonate with an absolute weight of <2500g at time of delivery regardless of gestational age. Correspondingly, it is estimated that around 15-20% of all births or >20 million newborns annually are low birth weight infants.

Preterm infants carry a greater mortality risk due to the immaturity of multiple organ systems including immature pulmonary function possibly resulting in respiratory distress, high risk of postpartum intracranial hemorrhage, necrotizing enterocolitis and other gastrointestinal disorders and a high risk of sepsis. Additionally in the case of associated low birth weight there are higher risks of long-term neurologic disability, as well as long term chronic diseases affecting the cardiovascular system and endocrine glands.

This workshop will revolve around immediate postpartum management of preterm and/or low birth weight neonates in order to prevent acute complications which possibly could have a fatal outcome. Assessment of the vital functions of the neonate, supporting and enabling a proper respiration by assisting lung ventilation, cardiovascular monitoring and fluid support as well as other immediate actions that are taken on a routine basis are the cornerstone activities that this workshop will entail.

20th-24th May 2022 Ohrid, Macedonia



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- ▶ Медицината ја поврзавме со најсовремената технологија
- ▶ Добивме брза и прецизна дијагностика
- ▶ Создадовме врвна хирургија и резултати кои им ја враќаат вербата и насмевката на пациентите
- ▶ Вложивме храброст, стручност и посветеност за извршување на најкомплексните операции
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WORKSHOPS PART IV



How to approach a malnourished and dehydrated child - hands on workshop

Workshop Leader: Prof. Sonja Bojadzieva MD, PhD

Date: 23.05.2022, Monday

Optimal nutrition in the pediatric age group encompasses a way of nutrition that allows for normal physical, intellectual, emotional and social growth and development in children. The energy and nutritive needs of children differ from those of an adult beginning from the period of breastfeeding up until adolescence, and this remark is especially true for children with pathological conditions. The nutritive screening and evaluation are important in the early detection of children with risk of malnutrition enabling prevention of protein-caloric malnutrition.

The goals of enteral nutrition are: life support, creation of new tissues and regeneration of the existing ones, proper growth and development, normal organ function, energy production and enabling physical activity and maintaining health and ability to properly function in day to day life. Indications for enteral nutrition are: chronic diseases (hepatic disease, kidney disease, congenital heart defects, chronic diarrhea, metabolic diseases), surgical diseases (congenital gastrointestinal anomalies, malformation of the oral cavity, congenital heart defects- pre and post operatively), premature newborns, low body weight newborns, prolonged endotracheal intubation and mechanical ventilation, neurologic conditions, high degree gastroesophageal reflux, intolerance to different kinds of food components and other conditions.

Rehydration in the pediatric age group begins with oral ingestion of fluids and in the case of the inability to do so is continued with enteral or parenteral (intravenous) rehydration. The modality and approach to placement of tubes for enteral nutrition and/or rehydration is dependent on the type of disease, the age of the child and the expected duration of enteral nutrition. The types of enteral nutrition approaches include : nasogastric, nasoduodenal, nasojejunal, gastrostoma and jejunostoma. The education of a qualified personnel for the proper placement of feeding tubes and the conduct of enteral rehydration and nutrition as well as the parenteral rehydration of the child are of crucial importance for the proper management of children dependent on such measures without any complications.

Thinking About Thinking: Mastering Clinical Reasoning

Workshop Leader: Tim Gaul MD, DO

Date: 23.05.2022, Monday

This workshop will explore one of medicine's most fascinating questions, which happens also to be a question that is critical for medical education: What, apart from medical knowledge, is essential for clinical expertise?

Clinical reasoning (CR) - the cognitive and noncognitive process of gathering and interpreting patient data, formulating a differential diagnosis and then narrowing the possibilities as accurately as possible - is the keystone to avoiding medical errors and providing the optimal, evidence-based treatment for those seeking healing relief from their suffering. Interestingly, until recently, there has been very little data or consensus on how to become a master of clinical reasoning. In this lecture, the most recent findings regarding 'how doctors think' will be briefly presented including learning, educational, and psychology theory.

Interesting as this evolving research may be, for those of us who are - or soon will be - professional clinicians, practical pointers on how to improve our CR skillset as providers of excellent healthcare will also be presented. Goals of this workshop include helping attendees to become acquainted with the lexicon of CR, discover how to evaluate their own reasoning processes and where to find resources to pursue excellence in the diagnostic process.

Dr. Gaul is the Director of the North Macedonia US Physicians Project of Medical Education International. Over the past several years, he and his wife, Dr. Maureen, spend six months per year in Macedonia coordinating visits by US physicians who have, for the past 7 years, been collaborating with their Macedonian colleagues throughout the country. Stateside, he serves as an Assistant Clinical Professor of Family Medicine at the University of Pittsburgh. He holds board certification in Family Medicine and Addiction Medicine and teaches as faculty at the UPMC McKeesport Family Medicine Residency.

Use of Otoscopy in the Diagnosis of Various Forms of Otitis

Workshop Leader: Maureen Gaul MD

Date: 23.05.2022, Monday

In this workshop, Dr. Maureen Gaul will help participants better understand the need for accurate and excellent examination of the ear in the pediatric population. Emphasis will be placed upon the skills required to diagnose common ear complaints, proper use of the otoscope, interpretation of the demonstrated findings and formulation of a differential diagnosis. Appropriate interventions for treatment of the findings and need for referral for certain conditions will also be addressed.

The primary goal of the workshop is to strengthen the practical skill of otoscopy and students will receive personalized training during the event.

Dr. Maureen is a practicing pediatrician with over 30 years of clinical experience with children ranging from newborns to late adolescents. She resides in Macedonia for 6 months every year assisting her husband, Dr. Tim Gaul, manage the North Macedonia MEI US Physician Project, a collaboration between Macedonian and US colleagues which has been ongoing for almost a decade.

Personalized medicine in Forensic science

Workshop Leader: Prof. Zlatko Jakjovski MD, PhD

Date: 23.05.2022, Monday

Since the discovery of the double helix of the DNA molecule, the development of innovative sequencing techniques and various modalities of PCR techniques in medical genetics have led to the possibility of an individual approach to patient's diagnosis, treatment and prevention of side effects from genetically inherited diseases. In forensic science, the approach to genetic individualization is to establish the identity of a perpetrator through biological traces or identify of a missing person. The classic technologies for genetic identification by using short tandem repeat's (STR) of autosomal, Y and X chromosomes as well as mtDNA, given their long-term use in scientific and routine practice, are well established and there are rules, protocols, legal and ethical norms for interpreting the results. In recent years, with the application of NGS / MPS technology, a new era in forensic genetics called Forensic Phenotyping is rapidly developing, which can predict the phenotypic characteristics of the person such as eye color, hair color, face shape, constitution, baldness, skin color, height and age. In this workshop, several cases from the forensic medical practice will be presented, where with techniques of personalized medicine, diagnoses in deceased persons are established and identifications of missing persons are performed.

PANEL DISCUSSION



News in the medical field in our country from May 2019 to May 2022

Speakers:

- Prof. Venko Filipce MD;
- Prof. Maja Mojsova-Mijovska MD;
- Prof. Sashko Jovev MD;
- Prof. Aleksandar Trajanovski MD;
- Mrs. Elica Stojanovska

WORKSHOPS PART V



Clinical approach in a patient with chronic kidney disease

Workshop Leader: Nikolina Smokovska MD

Date: 23.05.2022, Monday

Chronic kidney disease (CKD) is a slow and gradually progressive condition that causes kidney dysfunction. It is defined as the presence of an abnormality in kidney structure or function persisting for more >3 months. CKD affects between 8-16% of the population worldwide and is often underrecognized. CKD is more prevalent in low- and middle-income than in high-income countries. Typically, it is identified through routine serum and/or urine screening or as an incidental finding. At a more advanced stage, symptoms can include fatigue or tiredness; swollen ankles, feet or hands; shortness of breath; loss of appetite; anemia; blood in urine etc. CKD is most commonly attributed to diabetes and/or hypertension, but other causes such as glomerulonephritis, infection, polycystic kidney disease, potential nephrotoxins (eg, NSAIDs) and environmental exposures (air pollution, herbal remedies, and pesticides) are common. The modern clinical approach in a person with CKD-related symptoms is to check for signs and order several analysis: serum and urine tests; kidney scans (ultrasound, and MRI or CT scan in rarer cases); glomerular filtration rate (GFR); kidney biopsy etc. GFR is a math formula using a person's age, gender, and their blood serum creatinine level used to determine the stage of CKD: G1-normal or high ($\text{GFR} \geq 90 \text{ mL/min/1.73 m}^2$), G2-mildly decreased ($\text{GFR} 60\text{--}89 \text{ mL/min/1.73 m}^2$), G3a-mildly to moderate decreased ($45\text{--}59 \text{ mL/min/1.73 m}^2$), G3b-moderate decreased ($30\text{--}44 \text{ mL/min/1.73 m}^2$), G4-severely decreased ($15\text{--}29 \text{ mL/min/1.73 m}^2$), and G5-kidney failure ($<15 \text{ mL/min/1.73 m}^2$). There is no cure for CKD, but treatment can help relieve the symptoms and stop it getting worse. The treatment depends of the stage. The main treatments are lifestyle changes; medicines to control the associated problems such as hypertension and high cholesterol; and for the advanced stages renal replacement therapy (dialysis or transplantation).

Personalized medicine in Forensic science

Workshop Leader: Prof. Dragana Petrovska MD

Date: 23.05.2022, Monday

Disease is defined as rare when it affects less than 1 in 2000. Overall, there are around 7,000 rare diseases (RDs), which collectively affect more than 300 million people worldwide; yet, treatments are only available for around 200 RDs. Around 80% of RDs are of genetic origin and, are often chronic and life-threatening. The majority of RDs have neurologic manifestations, involving central, peripheral nerve, and muscle. The most common neurological RDs in our country are:

Amyotrophic lateral sclerosis, a motor neuron disease, which leads to muscle control and movement problems. The incidence is 1-2.6/100,000. Symptoms may include muscle twitching, cramping, stiffness, or weakness, slurred speech, and/or difficulty chewing or swallowing. As the disease progresses, people may become weaker and are eventually wheelchair-dependent. Transthyretin-associated familial amyloid polyneuropathy, a rare inherited, slowly progressive condition characterized by abnormal build-up of amyloid. Caused by mutations in the transthyretin gene. The incidence is 0.87/100,000. The most typical presentation is a progressive length-dependent sensory-motor polyneuropathy, which usually begins with loss of thermal and pain sensation in the feet and slowly ascends the limbs. Spinal muscular atrophy, an inherited, progressive, neuromuscular disorder that affects the motor neurons. Caused by a mutation/deletion in the SMN1 gene. The incidence is 1/10,000 live births. Mainly, the muscles involved in walking, sitting, arm movement, head control and breathing are affected. Neuromyelitis optica spectrum disorders affects the spinal cord and optic nerves. The incidence is 1/770,000. Nearly 90% of affected individuals are female. Symptoms include pain, weakness, bowel and bladder problems, and temporary vision loss.

Treatment for those RDs often requires a multidisciplinary approach for symptomatic management and pharmacological treatment. Despite lack of treatment for majority of the RDs, treatment for those diseases is available in North Macedonia as well.

Sticks and Stones may break your Bones - but I know how to Cast!

Workshop Leader: Aleksandar Karevski MD

Date: 23.05.2022, Monday

One of the first contacts the young doctor has with patients is during his education in the ER. Almost 50% of visits to the surgical ER are musculoskeletal traumas. Through this workshop the students will get to know the most common musculoskeletal injuries that are seen in the ER, their differentiation and their treatment.

Participants will learn:

- When to use a cast to treat a fracture
- The dangers of cast treated fractures
- How to properly cast a fracture

LECTURES FROM OUR SPONSORS



20th-24th May 2022 Ohrid, Macedonia

Lecturio

Lecturer: Goran Stevanovski MD

Date: 21.05.2022, Saturday

Emergency Medicine

Lecturer: Tatjana Baevska Vuckovik MD, Nikob Medical Emergency Team

Date: 21.05.2022, Saturday

Zan Mitrev Clinic

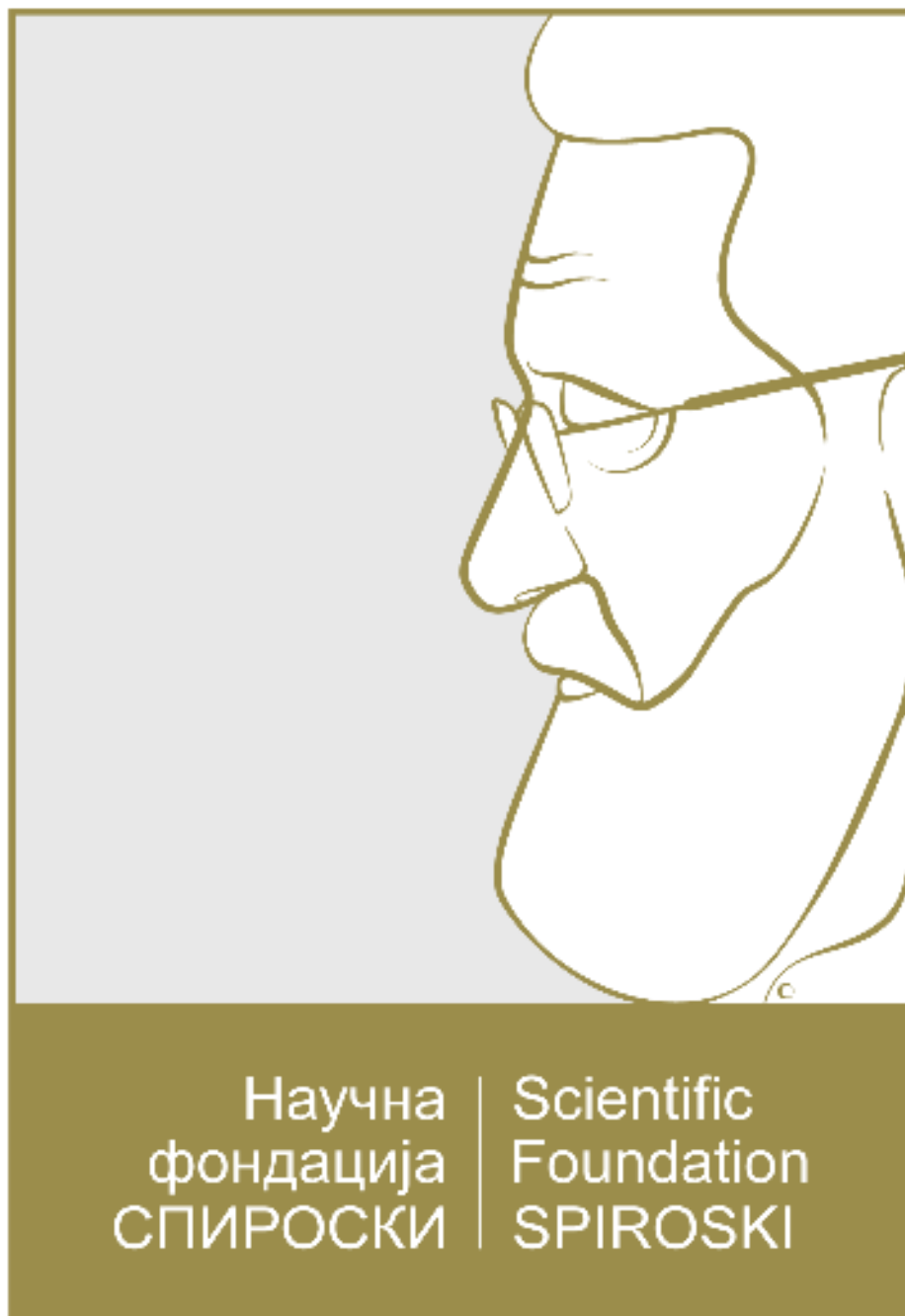
Lecturer: Zan Mitrev Team

Date: 23.05.2022, Saturday

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Professional organization of the medical doctors

ABOUT



20th-24th May 2022 Ohrid, Macedonia

Macedonian Medical Students' Association (MMSA)

The Macedonian Medical Students' Association is the oldest-dating student organization of the medical faculty, created in the dawn of its formation. It is a member of IFMSA – International Federation of Medical Students Association, which is the biggest medical student body, acknowledged and endorsed by the United Nations, the World Health Organization, UNESCO, UNICEF and various other organizations.



We actively fight for improving the quality of the medical education in Macedonia – organizing educational and explorative activities, as well as realizing professional and explorative exchanges among member countries of IFMSA. We also contribute to improving the quality of students' professional knowledge, and fuel public awareness of medical and health problems that affect the community.

Our vision encapsulates a medical student, aspiring to the highest European educational standards – a future doctor, accountable, in accordance with the established ethical principles and the firmly configured morals, for his/her individual career and their colleagues.



REPUBLIC OF MACEDONIA

Macedonia (Macedonian: Македонија), officially Republic of Macedonia (Република Македонија), is an independent country on the Balkan peninsula in the heart of southeastern Europe. The country borders Albania to the west, Bulgaria to the east, Greece to the south and Serbia and Kosovo to the north. In 2005, the Republic of Macedonia received official candidate status for the European Union. The capital is Skopje with more than 500,000 inhabitants. It also has a number of other significant cities, notably Bitola, Prilep, Tetovo, Gostivar, Kumanovo, Ohrid, Veles, Štip, and Strumica. The Republic of Macedonia is often called a land of lakes and mountains. There are more than 50 natural and artificial lakes and sixteen mountain ranges higher than 2,000 m (6,562 ft) above sea level.



Macedonia has a rich cultural heritage in art, architecture, poetry and music. It has many ancient, protected religious sites. Poetry, film and music festivals are held each year.

Macedonian music styles developed under the strong influence of Byzantine church music. Macedonia belongs to the countries with the best preserved frescoes, many of which date from the period between the 11th and 16th centuries. There are several thousand square meters of preserved frescoes, most of which are in very good condition and are masterpieces of the Macedonian School of ecclesiastical painting.

In Macedonia the past meets the present. Its age-old architecture and monasteries and churches of exquisite beauty make an interesting contrast with the super modern new architecture. Almost all Macedonian monasteries, built in different periods, particularly those built between the 11th and 15th-16th century, is now completely preserved. Macedonian collection of icons, especially Ohrid is one of the most valuable collections in the world today. After Sinai and the Moscow collection of icons, is third in importance within Orthodoxy.

The Byzantine aspect, it is unique. The most important cultural events in the country are the Ohrid summer festival of classical music and drama, the Struga poetry evenings which gather poets from more than 50 countries around the world, Skopje May opera evenings, International camera festival in Bitola, open Youth theatre, Skopje jazz festival and many others.

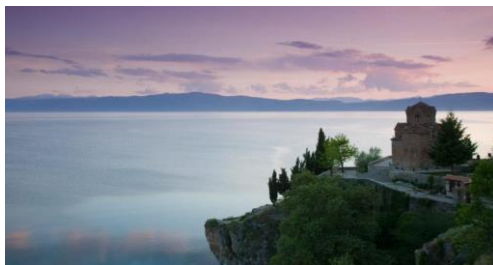


20th-24th May 2022 Ohrid, Macedonia

OHRID

Ohrid, an immortal town, on the mythical Balkan, a magical hill of Macedonia whose primordial pulsation links ancient and modern times forever.

It is the largest city on Lake Ohrid and the eighth-largest city in the country with over 42,000 inhabitants. Ohrid is notable for once having had 365 churches, one for each day of the year, and has been referred to as a "Jerusalem (of the Balkans)". The city is rich in picturesque houses and monuments, and tourism is predominant.



It is located southwest of Skopje, west of Resen and Bitola, close to the border with Albania. Ohrid has been a living town for two thousand and four hundred years, the legitimate descendant of the shining Lychnida, a town whose achievements were woven into the tapestry of a powerful ancient civilization. The town of Ohrid is indeed the cultural history of the Republic of Macedonia in miniature.

As an Episcopal center in ancient times, and likewise through the widely renowned Ohrid archbishopric, the town has likewise through centuries represented the entire ecclesiastical history of Macedonia. It bears the name "The Balkan Jerusalem". Through the activity of St. Clement of Ohrid, at the end of 9th and the beginning of the 10th century the first pan - Slavonic university in Europe was situated here.

Ohrid was the most important official capital of the first mediaeval Macedonian state, of Samuel's empire. Ohrid is a literary centre of Macedonia in the 19th century with the strong maxim of one of the greatest European intellectuals of that time, the native from Ohrid, Grigor Prlichev, so called "The second Homer": PERFECTION OR DEATH!

Today Ohrid is a cultural, spiritual and tourist centre of Macedonia. And finally, as the crowning glory of its values, Ohrid and the lake of Ohrid were declared a cultural and natural heritage site under protection of UNESCO since 1980.



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