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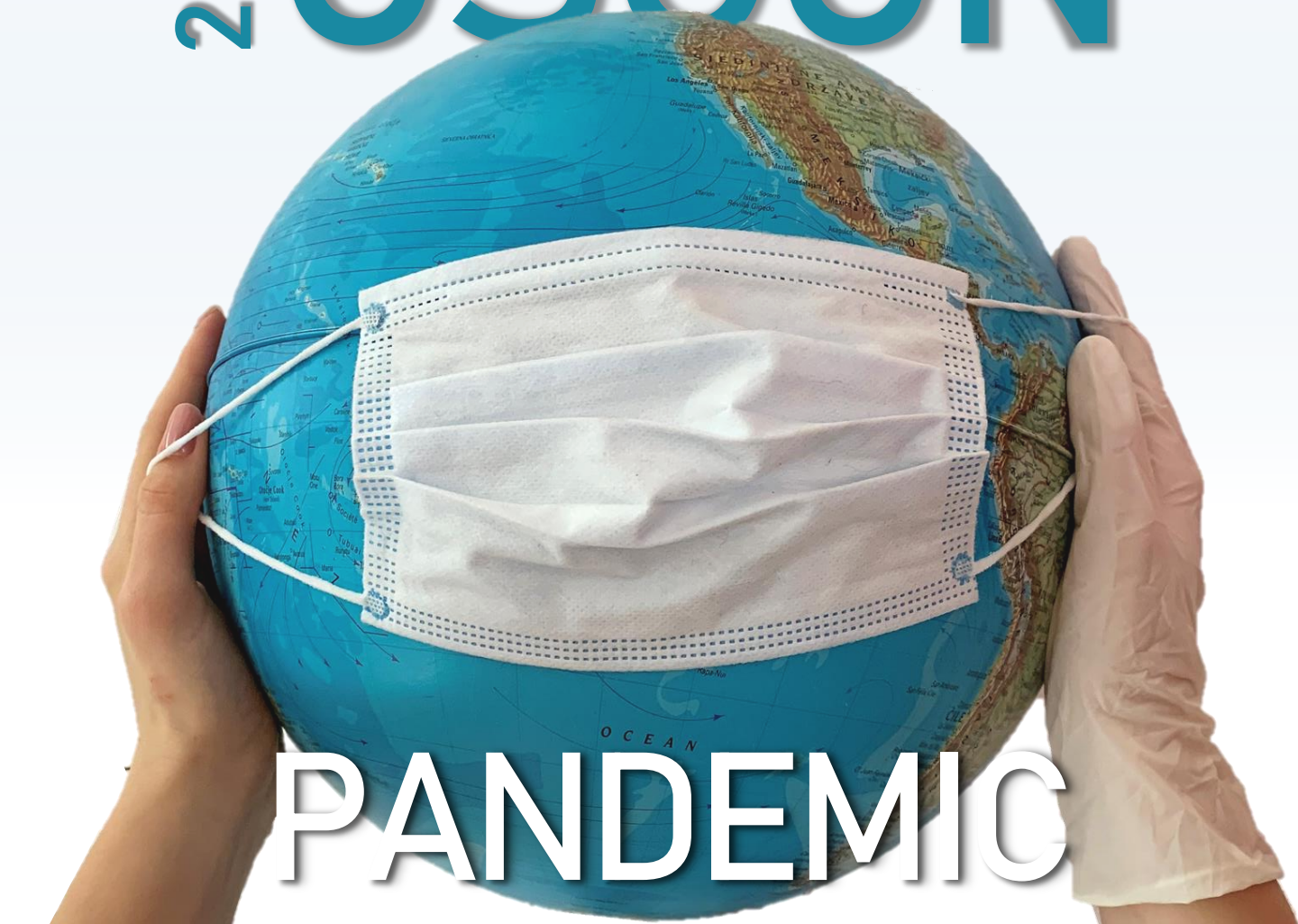
OSCON

19th – 20th MARCH 2021

BOOK OF ABSTRACTS

2021 OSCON



PANDEMIC

THE NEW NORMAL

3rd International Translational Medicine Congress Of Students And Young Physicians

BOOK OF ABSTRACTS

OSCON 2021

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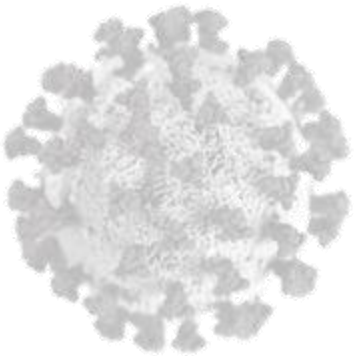
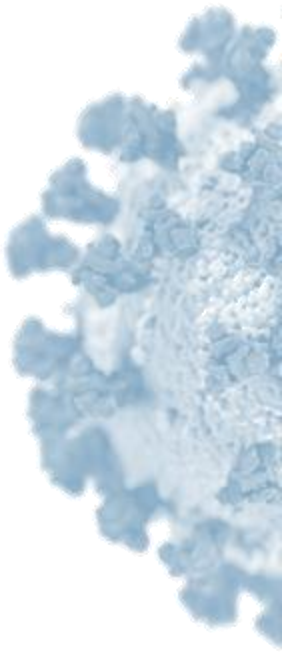
FACULTY OF MEDICINE OSIJEK
J.J. STROSSMAYER UNIVERITY OF OSIJEK





3rd INTERNATIONAL TRANSLATIONAL MEDICINE CONGRESS OF STUDENTS AND YOUNG PHYSICIANS

19th – 20th MARCH 2021

PUBLISHER:
J. J. Strossmayer University of Osijek
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OSCON 2021

3rd International Translational Medicine Congress
of Students and Young Physicians

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GENERAL INFORMATION

DATE: March 19th – March 20th, 2021

VENUE: University of Osijek, Faculty of Medicine, Josipa Huttlera 4

MAIN TOPIC: „ PANDEMIC: THE NEW NORMAL ”

GUEST ATTENDANCE POLICY: All registered participants are welcomed to all events and lectures. Wearing official conference badges is obligatory for entering any events.

OFFICIAL LANGUAGE: English

SOCIAL MEDIA: oscon_mefos

OSCON

OSCON 2021

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WELCOME MESSAGE

„ PANDEMIC: THE NEW NORMAL”

19th – 20th MARCH 2021

FACULTY OF MEDICINE OSIJEK
J.J. STROSSMAYER UNIVERITY OF OSIJEK

WELCOME MESSAGE FROM THE PRESIDENT OF THE ORGANISING COMMITTEE

Dear Colleagues,

It is my great honor and privilege to welcome you in the name of Organising Committee of OSCON. We are very proud to host you on third edition of Osijek Students Congress - OSCON 2021.

The main goal of OSCON is to provide a place for acquiring new knowledge and skills important for future careers, making new acquaintances due to the development of quality cooperation, overcoming the fear of presenting at a scientific conference and encouraging the scientific component of medicine, which is often neglected. Our global theme is Translational Medicine which is based on close collaboration between fundamental and clinical research for faster and more effective implementation of discoveries in clinical practice. The coronavirus pandemic showed us the importance of intersectoral collaboration and the implementation of scientific research into clinical practice.

Our main theme this year is „Pandemic: the new normal" and it is reaching into every sphere of our lives. It has changed our daily lives, and it will certainly mark our future careers. Every day we can hear dozens of news about SARS-CoV-2, but few of those are actually helpful and can even produce misleading clues towards real solutions. Therefore, at the congress, we will learn how evidence-based medicine deals with a SARS-CoV-2. This unexpected and odd situation poses new challenges and questions for each of us - whether social distancing, self-isolation and online lessons will be the only possible way of life in the future and whether the end of the pandemic is on the sight, we will try to find it out together at OSCON 2021. This year's edition of OSCON was challenging for all of us and that's why I would like to especially thank all the members of Organising and Scientific Committee for all the hard work they have put in this year's congress and for many tasks they have managed to successfully fulfill.

We are more than happy to welcome you to our faculty and we hope you will have a pleasant and useful time. We are looking forward to meeting you at this Congress!

NIKA PUŠELJIĆ

President of the Organising Committee

WELCOME MESSAGE FROM THE PRESIDENT OF THE SCIENTIFIC COMMITTEE

Dear Colleagues,

On behalf of the Scientific Committee, it gives me great pleasure to welcome you all to our third OSCON Congress.

Despite the current circumstances, Scientific Committee gave its best to put together a quality program and to enable all participants, either live or virtually, the chance to learn about the latest research related to the COVID-19 pandemic.

Each of us can agree that the coronavirus has changed life as we know it and triggered many challenges not only in our health-care systems but also in our ability to work together in the face of a common challenge. Therefore, I am honored to announce that this year we gathered leading experts from all over the world who will present the issues and experiences of doctors in different fields, in the fight against the Covid-19 pandemic. The global theme of OSCON is Translational Medicine, which is based on close collaboration between fundamental and clinical research, and as it is currently more important than ever to connect those two terms into a whole. Therefore, we found COVID-19 pandemic ideally suited for our theme.

We are more than happy to welcome you to our faculty, and we hope you will have a pleasant and useful time. We invite you to submit and present your research and to make friendships in a relaxed and friendly atmosphere.

We are looking forward to meeting you at this Congress and wish you a very successful one!

IVANA JURIĆ

President of the Scientific Committee

WELCOME MESSAGE FROM THE PRESIDENT OF THE STUDENT COUNCIL

Dear Participants,

As president of Student Council, Josip Juraj Strossmayer University of Osijek, School of Medicine, it is great privilege and honour to welcome you to our 3rd Osijek Student Congress (OSCON) – International Translational Medicine Congress of Students and Young Physicians. Although different from the first two, due to the pandemic, it is still similar to them in one thing – the goal to promote knowledge, accomplish new skills, include students from the entire worlds, and give all participants a chance to present their scientific work and broaden their knowledge in the field of biomedicine.

Science has to make progress on a daily basis, and that is why we need as many participants as possible, who broaden their and our views every year while advancing the science itself.

Also, OSCON is an excellent place to make new acquaintances and accomplish new skills which will make contributions in our future work.

I want to take this opportunity and thank the Dean of School of Medicine, University Osijek and Student Council, Josip Juraj Strossmayer University of Osijek for their support. Also, I want to thank the members of Organization and Scientific Committee because without them this great story wouldn't be possible.

Finally, I wish to all the participants that they bring from this congress, alongside knowledge, many beautiful memories.

MARTA BOLJEŠIĆ

President of the Student Council

OSCON 2021

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ABOUT US

„PANDEMIC:
THE NEW NORMAL"

19th – 20th MARCH 2021

FACULTY OF MEDICINE OSIJEK
J.J. STROSSMAYER UNIVERITY OF OSIJEK

ABOUT FACULTY OF MEDICINE

The Faculty of Medicine of University of Osijek is the youngest medical faculty in Croatia. It was officially opened in 1968 as a branch of the School of Medicine in Zagreb, and in 2018 it celebrated 20 years as the independent medical faculty. The largest and main base of the faculty is the University Hospital Centre Osijek. The Faculty of Medicine in Osijek is the only medical faculty in Croatia that shares the same campus with its main teaching base, which is located within the University Hospital Centre complex.

Apart from a three-year undergraduate programme and two-year graduate study programmes (Biomedical-Laboratory Technologies) and a six-year long first-degree study programme in Medicine, the Faculty of Medicine offers several postgraduate specialist study programmes and doctoral study programme. The aim is to provide students the highest level of knowledge and training adequate for the professions they are pursuing.

The Faculty of Medicine Osijek has defined main research areas and has been profiled by several interdisciplinary groups that link basic and clinical studies (translational medicine). We would also like to point out that, our two professors emeriti Antun Tucak and Savo Jovanović contributed to the faculty with their work and effort.

ABOUT UNIVERSITY OF OSIJEK

The Josip Juraj Strossmayer University of Osijek is a university located in Osijek, Croatia.

It was founded in 1975 and it is organized in 12 faculties, 4 departments and one academy. University is a medium-size in comparison to other European Universities.

University of Osijek has been developing into a modern European institution of higher education, and it is becoming a regional centre of knowledge, research and excellence. All efforts are directed towards the constant increase of teaching and studying quality. The University offers a high student standard concerning accommodation, learning facilities and other student services.

The city of Osijek is known as the city of students.

ABOUT OSIJEK

Osijek is a modern Central European city with 17 city parks and gardens which make Osijek one of the greenest cities in Croatia. The City of Osijek is also famous for secession (a variation of art nouveau). The promenade along the Drava river is one of the longest walking trails in Croatia. Given the city of Osijek's long history, there's a variety of sights such as Tvrđa, a fortified part of the city from the 18th century.

Some of the most valuable examples of Baroque architecture in Croatia, such as the statue of Holy Trinity and General's-headquarters are located in Tvrđa and printed on 200 kuna bills.

The tradition of higher education in Osijek exists since 1707 and today our university with its 17 faculties and departments is one of the most important scientific centres in Croatia. According to the latest official figures, University of Osijek has around 18 000 students enrolled in. Some of the notable people that lived in Osijek are two Nobel laureates in Chemistry. Lavoslav Ružička was awarded in 1939 and Vladimir Prelog in 1975. Both of them finished their secondary education in Osijek.

ABOUT CROATIA

Croatia is a country on the north western edge of the Balkan peninsula.
Croatia has a population of 4,05 million people and covers an area of 56,594 km². Five countries border Croatia: Bosnia and Herzegovina, Hungary, Montenegro, Serbia, and Slovenia, and it shares a sea border with Italy. The country offers a long coastline with over a thousand islands along its coast at the Adriatic Sea (Mediterranean Sea), a variety of medieval towns and villages, and a pleasant Mediterranean climate.

The capital of Croatia is Zagreb, placed in the northwest of the country. Croatia's second-largest city is Split, situated on a peninsula in the southern part of Adriatic Sea. Remaining two largest cities are the Port of Rijeka located on the northern shore of the Adriatic Sea and Osijek in the far east of Croatia. Other well-known towns include Dubrovnik, Makarska, Poreč, Rovinj, Opatija and Zadar.

Croatia has declared its independence of Socialist Federal Republic of Yugoslavia (SFRY) in 1991. The Croatian War of Independence started right after that, ending four years later with Croatia as a victor. Despite Croatia's hard history that has left enormous consequences on the country, it could not affect on Croatia's natural beauty that contains some of the prettiest natural wonders in the world! Alongside with its natural beauty, culture. Cultural Heritage and beautiful coastline are only some of the reasons why Croatia is certainly worth visiting. We have given you just a brief history of the country, but we hope you will experience it yourself!

PROGRAMME

FRIDAY - March 19th

09:00 - 09:30 ➡ OPENING CEREMONY

SESSION I.

09:30 - 10:00 ➡ ASSOC. PROF. DOMAGOJ DRENJANČEVIĆ, MD, PhD :
„SARS-COV-2: public enemy number one"

STUDENT SESSION

10:30 - 13:30 ➡ E-POSTER SESSION I. + II.

13:30 - 14:30 ➡ ORAL PRESENTATIONS I.

WORKSHOPS

14:45 - 15:30 ➡ WORKSHOPS I.
- Intro to suturing like a surgeon (P4 hall)
- Don't wait, RESUSCITATE! (P2 hall)
- Wave after wave (P3 hall)
- BrainLes (P1 hall)

15:30 - 16:15 ➡ BUFFET LUNCH

16:30 - 17:00 ➡ WORKSHOPS II.

SESSION II.

17:30 - 18:00 ➡ MATTHIAS FENRICH, MD :
„Neurotropism in Coronaviridae: a case of SARS-CoV2"

18:00 - 18:30 ➡ NORA PFAFF, MD, FAAP :
„High Risk Behavior Screening and Interventions in Hospitalized Adolescents"

PROGRAMME

SATURDAY - March 20th

SESSION III.

08:30 - 09:00 DARIO SABADI, MD:
„Clinical features of patients with Covid-19"

STUDENT SESSION

09:00 - 10:30 E-POSTER SESSION III.

10:30 - 11:30 ORAL PRESENTATIONS II.

WORKSHOPS

11:30 - 12:15 WORKSHOPS I.
- How to become a successful vampire: a lesson to go! (P4 hall)
- Keep calm and turn the siren on! (P1 hall)
- PCR - Pippete Cry Repeat (Cabinet of Biochemistry)
- Place the tube into right place (Department of Surgery, 3rd floor)

12:15 - 13:00 BUFFET LUNCH

13:00 - 13:45 WORKSHOPS II.

SESSION IV.

14:00 - 14:30 OGNJEN GAJIĆ, MD, MSc :
„International collaboration during COVID-19 pandemics"

14:30 - 15:00 MLADEN KNOTEK, MD, PhD:
„COVID-19 in immunocompromised patients"

STUDENT SESSION

15:00 - 16:30 E-POSTER SESSION IV.

SESSION V.

16:30 - 17:00 JAI RADHAKRISHNAN, MD, MS :
„COVID-19 and the kidney"

17:00 - 17:30 PROF. IVAN ĐIKIĆ, MD, PhD :
„Science will defeat COVID-19"

17:30 CLOSING CEREMONY

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LECTURERS

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PROF. IVAN ĐIKIĆ, MD, PhD

Dr. Đikić has graduated at the School of Medicine, University of Zagreb, in 1991. Year after earning his M.D. degree, he continued to pursue his Ph.D. thesis in molecular biology at the New York University School of Medicine, until 1997. Soon after, he was placed as a head of the laboratory at the Ludwig Institute, Uppsala, Sweeden - where he investigated the molecular mechanisms of tumor development. In 2002, he became the youngest Professor at Goethe University, Frankfurt.

It is the origin and treatment of cancer that have become the main occupation of Dr. Đikić, in which he had his most significant scientific successes. With his team at Goethe University, he discovered the mechanism by which the human cells protect themselves from developing a cancer. Together with prof. Husak, he discovered a protein that plays an important role in the development of tumors and diseases of the nervous system. For his significant contribution to cancer research, he has received numerous awards, including the most prestigious German scientific award - the Gottfried Wilhelm Leibniz, as well as the AACR Award for Outstanding Achievement in Cancer Research.

Considering that Dr. Đikić is one of the most famous, most awarded and most quoted of our scientists, we assure you that you will enjoy his knowledge and lecture, with which he will honor us!

OGNJEN GAJIĆ, MD, MSc

Dr. Ognjen Gajić received his medical degree in 1987, at Faculty of Medicine, University of Sarajevo, Bosnia and Herzegovina. Few years after, in 2004, Dr. Gajić earned his master's degree in clinical research from the Mayo Clinic College of Medicine and Science, where he, nowadays, serves as a Professor and Clinical Informaticist and a Critical Care Specialist of the Pulmonary Medicine Department.

Dr. Gajic's Multidisciplinary Epidemiology and Translational Research in Intensive Care, Emergency, and Perioperative Medicine (METRIC-ePM) Laboratory at Mayo Clinic continuously evaluates the clinical course and outcomes of patients with critical illnesses, with a goal of identifying and implementing best practices and improving the quality of care and outcomes. Sophisticated data retrieval and analysis techniques, clinical informatics, simulation modeling, and implementation science enable Dr. Gajić and his colleagues to search for new knowledge regarding disease mechanisms, the response of the human body to acute illness or injury, and the most effective treatment approaches. Notable international efforts include Checklist for Early Recognition and Treatment of Acute Illness and iNjury (CERTAIN) and Viral Infection and Respiratory Illness Universal Study (VIRUS).

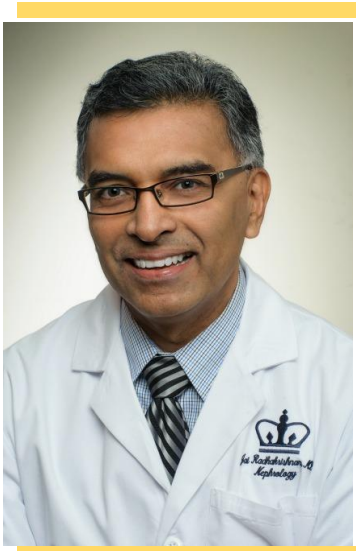
Join us and discover more by attending his intriguing lecture, we assure you will enjoy it!

JAI RADHAKRISHNAN, MD, MS

Dr. Radhakrishnan is Professor of Medicine at Columbia University Medical Center and the Clinical Director of the Nephrology Division at the New York Presbyterian Hospital. After completing his initial medical training in India and the United Kingdom, he completed his nephrology training at the Massachusetts General Hospital in Boston and Columbia University Medical Center in New York. He completed a Master's Program in Biostatistics from the Mailman School of Public Health, Columbia University.

His clinical and research interests are in glomerular diseases. He is an associate editor of Kidney International and founding editor/editor-in-chief of Kidney International Reports. As a clinician-educator, he has served on educational committees with the American Society of Nephrology and the International Society of Nephrology and is a global education ambassador for the ISN . He has lectured extensively internationally and has received numerous awards for his outstanding educational and patient care-related achievements.

We are happy to announce that, once you register, you'll be able to attend his lecture. We guarantee that you will learn something new!



NORA PFAFF, MD, FAAP

Dr. Pfaff completed residency in general pediatrics at Children's Hospital Los Angeles in 2018, after graduating from medical school at Case Western Reserve University in Cleveland, OH in 2015. Prior to this, she received her bachelor's degree in Molecular and Cell Biology at UC Berkeley in 2011, where she was also involved with research in the School of Public Health. She is an Assistant Professor in the Department of Pediatrics within the Division of Hospital Medicine at University of California, San Francisco (UCSF) and also serves as the Assistant Director of the UCSF Northern CA Consortium—creating and revising clinical guidelines for the care of hospitalized children at UCSF and affiliated community hospitals.

Her research passions involve ways to bring opportunistic care to patients in the hospital setting and thus far have involved: HPV vaccines for inpatient adolescents, high risk behavior screening and interventions for the hospitalized adolescent, and most recently – Social Determinant of Health screening and interventions. She is also involved in advocacy through the American Academy of Pediatrics (AAP) and serves as a State Government Affairs representative for AAP California.

Please, be our guests and join us at the lecture! We are sure that you will enrich your knowledge!

MLADEN KNOTEK, MD, PhD

Professor Mladen Knotek was born in Zagreb in 1967. He graduated from the Faculty of Medicine in 1993. He specialized in internal medicine and subspecialized in nephrology at the Mercury Clinical Hospital. He is the head of the Department of Nephrology and the head of the clinical department. He is the head of the kidney transplant program at the Merkur Clinical Hospital. The Department of Nephrology of the Merkur Clinical Hospital is one of the leading nephrology departments in the Republic of Croatia.

He is the former president of the Croatian Society for Nephrology, Dialysis and Transplantation and one of the leading Croatian doctors in the field of transplant medicine. His major current professional and research interest involve the diagnosis and treatment of kidney disease and arterial hypertension, as well as scientific research in the field of nephrology and transplantation.

If you have registered to OSCON, you will be able to enjoy the lectures held by Professor Knotek and to learn a lot from his broad clinical and scientific experience.

ASSOC. PROF. DOMAGOJ DRENJANČEVIĆ, MD, PhD

Professor Domagoj Drenjančević was born on August 10, 1974, in Đakovo, Croatia. He graduated from the Medical Faculty of the University of Zagreb, Study of Medicine in Osijek in 1999. From 2000 to 2002 he was a junior research assistant at the Scientific Unit of the Clinical Hospital Osijek, and an associate at the Department of Microbiology and Parasitology at the Medical Faculty of Josip Juraj Strossmayer University in Osijek. Since 2007 he has been a specialist in medical microbiology and parasitology, since 2009 an assistant professor, and since 2018 an associate professor at the Faculty of Medicine, University of Osijek.

He has been the President of the Department of Microbiology and Parasitology at the Faculty of Medicine, University of Osijek since 2011. His research interests are with clinical microbiology, blood-borne pathogens, sepsis, bacterial virulence factors, and resistance as well as hospital infections. He is the author and co-author of 31 scientific publications, which were published in various esteemed scientific journals related to microbiology.

With his respectful scientific and clinical career in the field of microbiology, virology, and parasitology, you are guaranteed to acquire new, interesting, and clinically useful knowledge.

DARIO SABADI, MD

Dr. Sabadi is a resident at Infectology in the Clinic of Infectious Diseases, Clinical Hospital Center Osijek. In 2012., he graduated from Faculty of Medicine Osijek and acquired the professional title of doctor of medicine. During his studies, he was an active member of the European Medical Students Association (EMSA) and a leader of several projects. In May 2015, he started as a resident at Infectology in a place Clinic for Infectious Diseases, University Hospital Center Osijek. From 2019, he was employed as an assistant at the Faculty of Medicine in Osijek, at the Department of Infectology and dermatovenerology where he actively participates in conducting part of the teaching process with students of medicine.

His subjects of clinical and scientific interest are viral infections of the central nervous system and viral liver infection. He is currently a participant and consultant in two scientific projects (a project of the Croatian Science Foundation and the Institutional Project of MeFOs) in molecular epidemiology arbovirus infections of the central nervous system and SARS-CoV-2 infections. He is a third-year student Postgraduate doctoral study of Biomedicine and Health, the scientific field of clinical medical science.

It is with joy that we invite you to attend his lecture and enhance your knowledge in medicine!

MATTHIAS FENRICH, MD

Dr. Matthias Fenrich graduated at Faculty of Medicine Osijek in the 2019th year. He was demonstrator and dissection technician at Department of Anatomy and Neuroscience at Fundamentals of Neuroscience and Anatomy courses, president of Science Committee at J. J. Strossmayer University of Osijek Students' Council and member of CroMSIC, SENZOS and EMSA students` associations. During his college education he was rewarded with Dean's List in the 2016th year, DANA Foundation Brain Initiatives Award for the best presentation at Brain Awareness Week and Award for the best paper in session International Medical Students' Congress in Novi Sad. He presented his research results at many domestic and international congresses and published three journal articles as the first-author or coauthor. One of the journal articles is a paper titled: "SARS-CoV-2 Dissemination Through Peripheral Nerves Explains Multiple Organ Injury". In the article doctor Fenrich hypothesized that clinical presentation of COVID-19 patients is different due to dissemination of SARS-CoV-2 virus through peripheral nerves. His primary interest is microinflammation in the central nervous system and its involvement in neurodegeneration and psychiatric disorders.

We invite you to participate in the lecture of our young doctor, it will surely delight you!

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WORKSHOPS

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HOW TO BECOME A SUCCESSFUL VAMPIRE: A LESSON TO GO!

WORKSHOP LEADERS: prof. INES DRENJANČEVIĆ, MD, PhD; ZRINKA MIHALJEVIĆ, PhD; PETAR ŠUŠNJARA; MARIJA ANĐIĆ

INTRODUCTION: Venipuncture is the collection of blood from a vein which is usually done for laboratory testing. It seems like a simple procedure but... What if something goes wrong? What if you miss the vein? What if you don't collect enough amount of blood or if you mix blood samples and vacutainers? Answers on this and many other questions you will be able to find out on the Venipuncture workshop!

WORKSHOP DESCRIPTION: Exercise of venipuncture on the artificial and human hand. Presentation of interesting case reports with the opportunity to solve intriguing problems through a quiz.

INTRO TO SUTURING LIKE A SURGEON

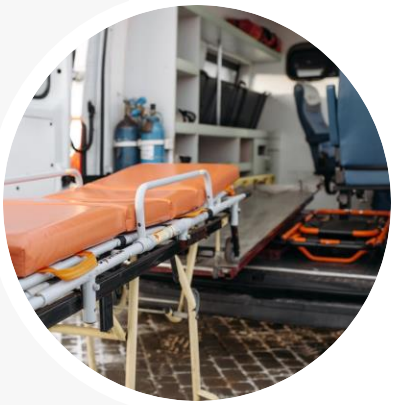
WORKSHOP LEADERS: ANA KVOLIK PAVIĆ, MD; MARTA BOLJEŠIĆ; VERONIKA ŠIKIĆ

INTRODUCTION: Treating a cut or other small physical trauma is a very useful skill nowadays considering they are very frequent. During the workshop, you will learn skills that are needed to perform suturing techniques required in most Primary care and urgent care settings. Who can apply? All skill levels!! From a beginner to those advanced individuals that need a refresher course!

WORKSHOP DESCRIPTION: To make the model as realistic as possible we will use pig's legs as an example of skin. Each participant will get his injured 'patient' to practice how to address certain wounds.

KEEP CALM AND TURN THE SIREN ON!

WORKSHOP LEADERS: IVAN VILOVIĆ, mag. med. techn.



INTRODUCTION: Have you ever wondered how many lives are saved everyday thanks to the professional and well-timed intervention of the emergency medicine team? Or maybe, how many of them do not get saved because of hidden mistakes? Are you interested in how would you react if you were in an ambulance for at least 45 minutes?

WORKSHOP DESCRIPTION: For starters, you will have the chance to discover everything one can in din the ambulance vehicle, and how it is adjusted to its purpose. But that is not everything! You will have the chance to perfect auscultation, try out reanimation using a defibrillator, intubation and many other things on our special doll. As a cherry on top, our hosts will give you some secret tips and tricks, which may help you in your future work.

Don't wait, RESUSCITATE!

WORKSHOP LEADERS: DARJAN KARDUM, MD

INTRODUCTION: Have you seen this 30:2 ratio 100 times and you know everything about it? But what if it's not suitable for everyone? Children are special when it comes to Basic and Advanced Life Support. So, if you want to learn how to save a child's life, this is the workshop for you. Learn from a Certified Pediatric ALS specialist how to identify, approach and help a child in the fight for life.

WORKSHOP DESCRIPTION: Certified Pediatric ALS specialist will lead you through the Basic and Advanced skills of life support. You will have the opportunity to test your skills on specially designed dolls for pediatric ALS, so don't miss the opportunity.

PCR - PIPETTE, CRY, REPEAT!

WORKSHOP LEADERS: assist. prof. STANA TOKIĆ, PhD; REBEKA KAPREL; MAJA JIROUŠ

INTRODUCTION: To face the new Covid-19 pandemic, the need for early and accurate diagnosis of the disease among suspected cases quickly became obvious for effective management, and better control of the spread of the disease in the population. Since the beginning of this disease epidemic caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), reverse transcriptase-polymerase chain reaction (RT-PCR) has routinely been used to confirm the diagnosis. Find everything you wanted to know about PCR!

WORKSHOP DESCRIPTION: You will have a chance to learn how to take a swab by yourself and analyze results by doing your own PCR test! Also, you will learn how to recognize false-negative CoV-2 qRT-PCR test results. Prepare your nostrils and see you at this fun and educational workshop!

WAVE AFTER WAVE

WORKSHOP LEADERS: JERKO ARAMBAŠIĆ, MD

INTRODUCTION: An electrocardiogram (ECG) is one of the most commonly used medical tests in the life of a doctor. ECG is a painless, non-invasive way to detect cardiac abnormalities by measuring the electrical activity generated by the heart as it contracts.

WORKSHOP DESCRIPTION: This workshop will give you the opportunity to familiarize yourself with ECG interpretations and to develop your diagnostic skills by analyzing and discussing some great ECG cases! This workshop is designed for students from the fourth year onwards.

PLACE THE TUBE INTO RIGHT PLACE

WORKSHOP LEADERS: SONJA ŠKILJIĆ, MD, prof. SLAVICA KVOLIK, MD, PhD, Valentina Grnja, Ivan Kovačević, Leon Jeđud

INTRODUCTION: Every doctor must intubate at least once in a lifetime. To do it right, you need to know all the steps of intubation. However, it is a technique you can master only with as much practice as you can get. Sometimes, the tube is misplaced in the esophagus instead of the trachea. It is important to know how to check if we are in the right place and what to do if we are not.

WORKSHOP DESCRIPTION: It is even okay if you make a mistake, our workshop leaders will be with you every step of the way and teach you how to do it right. This is very beneficial for you because when the right time comes, you will know how to intubate and, possibly, save a life.

BRAIN-LES

WORKSHOP LEADERS: assist. prof. SVETLANA TOMIĆ, MD, PhD

INTRODUCTION: The wonderous field of neurology. So logical, so sound, so charming and so many things not yet explained. If you are interested in how to track neurological outbursts by the areas of their origin, join us at this workshop and discover the secrets of the most mysterious human system.

WORKSHOP DESCRIPTION: This workshop is designed to give participants a broad overview of the entire lesion-symptom mapping through various case reports.

OSCON 2021

3rd International Translational Medicine Congress
of Students and Young Physicians

ePOSTER PRESENTATIONS

„ PANDEMIC: THE NEW NORMAL"

19th – 20th MARCH 2021

FACULTY OF MEDICINE OSIJEK
J.J. STROSSMAYER UNIVERITY OF OSIJEK

BASIC SCIENCE

BS01 Changes in the anthropometric indices of the rats with obesity on the background of the probiotic administration

Oleksandr Svyryda; Vladyslav Yevtushok; Daria Maryniak; Yuliia Chyzhanska; Marina Tsebenko

BS02 Lacrimal glands structure components of the laboratory rat

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ABSTRACTS

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OSCON

BASIC SCIENCE

ABSTRACTS

BS01

Changes in the anthropometric indices of the rats with obesity on the background of the probiotic administration

Oleksandr Svyryda[1]; Vladyslav Yevtushok[1]; Daria Maryniak[1]; Yuliia Chyzhanska[1]; Marina Tsebenko[1]

1 - Department of Biological and Bioorganic Chemistry, Ukrainian Medical Stomatological Academy, Poltava, Ukraine

Introduction: The microbiota affects on homeostasis, controls body weight. Microbiota changes lead to intestinal permeability increasing. This part of the pathogenesis, brings to obesity. Therefore, probiotic therapy can be effective in treating obesity.

Materials and methods: Experiment was performed on 44 rats. They were divided into 3 groups: 1.obesity group (n = 17), 2.correction group (n = 16), 3.control group (n = 10). Subcutaneously groups 1 and 2 were injected at 2, 4, 6, 8, 10 days after birth with sodium-glutamate by 4 mg/g dose diluted in saline. Rats of control group were injected subcutaneously with saline by 8 mcl/g dose. Animals had normal diet in vivarium 4 months. Rats starting from 1 month old and then next three months were injected intragastrical by probiotic *Lactobacillus casei* IMV-B-7280 by $5x10^8$ CFU/kg (50mg/kg) dose in 2 weeks courses and 2 weeks break. Animals slaughter was performed by thiopental-anesthesia and bloodletting. Animals visceral fat mass, length, body weight were measured. Body mass index (BMI), obesity index (Lee index) were calculated.

Results: Neonatal administration of sodium-glutamate leads to the development of obesity, as evidenced by the body weight and visceral fat mass growth, BMI, Lee index compared with the control group. The administration of probiotic normalizes anthropometric indices of glutamate-induced obesity, as evidenced by a decrease of body weight, visceral fat mass and Lee index compared to the 1st group.

Conclusion: Probiotic *Lactobacillus casei* is effective in the correction of glutamate-induced obesity. This is evidenced by the normalization of anthropometric

BS02

Lacrimal glands structure components of the laboratory rat

Daria Maryniak[1]; Andrii Katsenko[1]; Oleh Sherstiuk[1]; Nataliia Svintsytska[1]; Valentyna Bilash[1]

1 - Department of Human Anatomy, Ukrainian Medical Stomatological Academy, Poltava, Ukraine

Introduction: The lacrimal glands involvement in the pathological processes, animals and in humans both, requires more detailed knowledge of their morphology, especially in their normal functioning. It is important in the pathomorphological diagnosis.

Materials and methods: We obtained 2 lacrimal and 1 Garder's gland, in total of 25 biopsies, from 5 laboratory male rats by dissection from each side. The material was fixed with 12% neutral formalin, after which the glands were placed in paraffin according to the traditional method. A series of 4 mcm thin histological slices with hematoxylin and eosin staining were obtained from paraffin blocks.

Results: Lacrimal fluid of laboratory rats is formed by glands of different localization. The extraorbital gland is located outside of the orbit, around the parotid salivary gland. It has connective tissue capsule. It is much larger than the infraorbital gland. The main duct has a path to a lateral corner of an animal eye and is allocated easily enough. The extraorbital lacrimal gland of the rat consists of parts and excretory ducts of various caliber. Its lobes are separated from each other by wide layers of connective tissue. Arterial vessels and venules are clearly visualized in it.

Conclusion: The lacrimal glands of laboratory rats have an individual well-defined connective tissue capsule. The intraepithelial interstitial spaces contain vessels of the hemomicrocirculatory tract, mainly capillaries, precapillary arteries, and postcapillary venules, in the volume of the extraorbital and infraorbital glands. Arterioles and venules are usually visualized for its boundaries.

OSCON

CASE REPORT

ABSTRACTS

CR01

A 72-year-old patient with bilateral pneumonia caused by COVID-19 infection

Tomislav Kurevija[1]; Valentina Živković[2]; Matea Lukić[3]; Ljiljana Trtica-Majnarić[3,4]

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2 - University Hospital Center Osijek, Department of Microbiology and Hospital Infections, Osijek, Croatia
3 - Faculty of Medicine Osijek, Osijek, Croatia
4 - Faculty of Dental Medicine and Health, Osijek, Croatia

Introduction: One of the many reasons for the severity of COVID-19 is certainly its variety of symptoms, especially at the onset of the infection, which is why in many patients with less typical clinical picture it can be overlooked. Therefore, it is crucial to closely monitor the condition and development of symptoms of each patient.

Case report: The subject of this case report is the 72-year-old patient that lives alone in a village 50 kilometers from the hospital. Within a few days she made several visits to her family doctor complaining about hiccups and heartburn, chest discomfort, weakness and fatigue and occasionally dry cough. She had negative COVID-19 anamnesis and during this period she had normal vital parameters (HR, SpO_2, ECG, BG). A few days later she reports progression of symptoms and complains about back pain, shivering, diarrhea, shortness of breath and tachycardia which clearly indicates to COVID-19. Physical findings during a short home visit showed a clinical picture of bilateral pneumonia. She was then sent to the hospital where referral diagnosis proved correct with a positive SARS-CoV-2 PCR test and the presence of an inflammatory infiltrate on the X-ray of the lungs. After more than two weeks of treatment in the hospital, she was released home in a good general condition.

Conclusion: This case report indicates a certain variety of symptoms that COVID-19 can manifest, and shows how to properly identify and treat a COVID-19 patient in a family medicine practice and sent him timely to hospital.

Keywords: COVID-19, pneumoniae, family medicine

CR02

A case report of rectosigmoid megacolon caused by nonspecific colitis treated with coloanal J-pouch anastomosis

Veronika Šikić[1]; Ema Grba[1]; Zrinka Požgain[1,2]

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2 - Department of Abdominal Surgery, University Hospital Centre Osijek, J. Huttlera 4, 31000 Osijek, Croatia

Introduction: Megacolon is an abnormal dilation of the colon where the cause is congenital, acquired or idiopathic and considered uncommon disease in the adults. The symptoms include long term constipation, bloating, abdominal tenderness and pain, poor sense of wellbeing. Surgical treatment of megacolon includes proctectomy and coloanal anastomosis, restorative proctocolectomy with ileal pouch-anal anastomosis and defunctioning stoma, staged or single-staged modificated procedures and can be done using laparoscopy.

Case report: This case describes a 41-year-old male patient admitted to the E.R. for long term obstipation and a 10 days long experience of abdominal pain. The patient was previously healthy with no history of gastrointestinal disease. He was admitted after the urgent X-ray scan indicated pneumoperitoneum. The urgent CT scan showed enormous dilatation of the rectum with dimensions AP 18 x LL 21 x CC 45 cm and excluded existence of pneumoperitoneum or free fluid. After the exploratory laparotomy confirmed an abnormally dilated rectum, the Hartmann procedure was done. Pathohistological analysis of a 28 cm long resected part of the rectum showed chronic nonspecific colitis. 5 days after the surgery the patient developed the typical clinical presentation of ileus requiring another procedure including the resection of descending and sigmoid colon and formation of colostomy with transverse colon. 6 months later coloanal J-pouch anastomosis was performed using the transverse colon. Patient reports good condition with regular stools on regular check-up.

Conclusion: Adult megacolon is uncommon severe colonic dysmotility, manifesting clinically and radiologically and typically requires surgery treatment.

Keywords: megacolon, colitis, rectum, J-pouch

CR03

A rare case of Nonbullous congenital ichthyosiform erythroderma (NBCIE) with a compound heterozygous mutation in *ALOX12B* gene

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Introduction: Nonbullos congenital ichytosiform erythroderma (NBCIE) is an autosomal recessive disorder that affects 1 in 200 000 individuals. It is characterised by a tight collodion membrane covering the skin of a newborn infant. After the shedding of the membrane, erythroderma and ichthyosis are present and may improve in adulthood. Major complications that occur in the neonatal period are dehydration and heightened susceptibility to infections.

Case report: A female neonate was delivered late preterm weighing 2.74 kg to a primigravida without family history of genetic disease. AS was 10/10. Thick collodion membrane covered the whole body, with superficial fissures, ectropion, eclabium and contractures and venous stasis of the fingers. Systemic examination revealed no abnormalities. Neonate was placed in an incubator with 90% humidity. Analgosedative drugs and parenteral feeding was started. Shedding of the membrane started after five days of topical olive oil application. Due to worsening of the venous stasis in the hands, palmar incisions were done. The baby was taken out of the incubator on day 10 and discharged on day 25. Genetic analysis revealed a compound heterozygous mutation p.R548W and p.Y521C in the ALOX12B gene associated with NBCIE. At 13 months of age skin biopsy revealed mild acanthosis, orthokeratosis and hypergranulosis. Electron-microscopy revealed lipid droplets in the stratum corneum and corneodesmosome swellings. Follow up at 18 months reveals only dry skin.

Conclusion: Patients with NBCIE have a normal lifespan but are carriers of the mutated gene. Most new cases have no prior family history of disease.

CR04

A successful treatment of metastatic melanoma with pembrolizumab

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Introduction: Malignant melanoma (MM) is the least common skin cancer, but it quickly spreads, if not caught early. Pembrolizumab is an immune checkpoint inhibitor that targets PD-1 T-cell receptors and boosts the T-cell immune response against melanoma cells. The treatment is especially effective in patients with metastatic melanoma. The aim of this case report is to show progress in the melanoma treatment.

Case report: A 48-year-old woman had an excision of a cutaneous tumor in the left suprascapular region in 2009 (MM, clear surgical margins) and then an excision of an abdominal cutaneous tumor in 2014 (MM, surgical margins: 2.3mm). Her first visit to an oncologist was in 2014. She was recommended a reexcision of the abdominal tumor and a positron emission tomography-computed tomography (PET/CT) staging. Her second visit was in 2016 because of a tumor in the left breast (metastatic MM). PET/CT showed metastasis in the left breast, left lung and the brain. She had a quadrantectomy, Gamma knife radiosurgery and a left superior lobe lung extirpation. She then started pembrolizumab immunotherapy. After two cycles, she reported mild gastrointestinal side effects that were treated with corticosteroids. After 12 cycles, there was a significant decrease in LDH and S100 levels and the brain metastases were in regression. After 32 cycles, PET/CT showed no signs of metabolically active malignant disease.

Conclusion: This case shows innovation in the late-stage melanoma treatment and highlights the possibility of turning a tumor into a chronic disease. Immunotherapy is the way towards long-term cancer survival.

Keywords: malignant melanoma, immunotherapy, pembrolizumab

CR05

Extensive penetrating injury of the forearm with no neurovascular injury

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Introduction: Penetrating injuries are commonly seen in the emergency department and they are commonly associated with peripheral nerve and vascular injuries. It is imperative that proper examination of such wounds are carried out so as not to miss such common injuries as it can lead to drastic consequences. In this case the patient didn't have any neurovascular injuries and is therefore a rare phenomenon.

Case report: A 11 old boy presents itself in the ER with a penetrating injury and a foreign body in his right forearm after falling from a tree. Clinical neurovascular assessment was normal. X-ray of the forearm was made, no damage to the bones was detected. Revision of the wound was performed under general anesthesia, the foreign body was removed and surgical debridement was done. There were no neurovascular assessment changes during the stay at the hospital. Patient was released from the hospital after 7 days.

Conclusion: This is a rare case of upper extremity penetrating injury with no neurovascular or bone damage. The forearm is a limited space with many structures in it. This case report reflects, not only the importance of the mechanism of injury, but also the effect of energy that affects the tissue and the zone of injury that is the result of that energy .

CR06

COVID 19 – associated myositis

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Introduction: COVID-19 pandemic brought on many challenges in many different fields of medicine. In prevention, diagnostics and treatment, a huge diversity of clinical presentations of this disease represents significant problem.

Case report: Here, we present a case of relatively rare, but consistently reported complication of COVID-19 – viral myositis in 84-year-old female. We take a look at clinical presentation, diagnostic blood tests for creatin kinase (CK), myoglobin and C-reactive protein (CRP), and especially the careful approach to the treatment for this specific condition. Myositis is an inflammation of the muscle that presents by pain and weakness. It can be potentially life threatening, as it can lead to rhabdomyolysis. Diagnosis of this condition is clinical and can be , but does not have to be confirmed by EMNG and biopsy.

Conclusion: Myositis is a serious condition that requires close monitoring of patient and treatment. In the end of her hospitalization, patient was correctly diagnosed, appropriately treated and released home respiratory resuscitated and overall well. Nervous system and immunity implications od COVID-19 are yet to be fully understood.

CR07

Guillain-Barre syndrome as a manifestation of COVID-19

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Introduction: COVID-19 is an infectious respiratory disease that has spread worldwide and has been a great problem for medical institutions everywhere. Besides disorders affecting respiratory tract, there are some neurological as well, such as Guillain-Barre syndrome (GBS). GBS is a rare autoimmune disease affecting peripheral nervous system often appearing after respiratory or gastrointestinal infections.

Case report: A 55-year-old patient who tested positive for COVID-19 was admitted to hospital because of abdominal pain and progressive weakening of lower extremities, as well as difficulty in mobilizing. He had high inflammatory parameters and bilateral pneumonia proved on X-ray. MR of thoracic and lumbosacral spine was performed regarding his lower extremities problems. Changes specific for acute polyradiculoneuritis, also known as GBS, were found. Lumbar puncture showed albuminocytological dissociation. On neurological examination he had reduced strength of lower limbs, hypoesthesia and hyporeflexia. All of this referred to GBS and thus the patient was treated with immunoglobulins, after which his condition slight improved. Positive Babinski reflex, which he had, was highly unusual for GBS, so MR of cervical spine and brain was performed which showed disc protrusion in C6-C7 region and multiple small ischemic lesions. After that he was treated with corticosteroids, his symptoms reduced and he was discharged.

Conclusion: This was a case of Guillain-Barre syndrome which had a positive Babinski sign not usually found in such cases. GBS is rare but possible complication of COVID-19 infection. Early recognition is vital because it might have serious consequences if overlooked.

CR08

Acute Cholecystitis in Thrombotic Thrombocytopenic Purpura

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Introduction: Thrombotic thrombocytopenic purpura (TTP) is a rare, multisystemic disease, usually caused by increase in circulating multimers of the von Willebrand factor, which results in the formation of small platelet clots. The most common symptoms of TTP are thrombocytopenia, microangiopathic hemolytic anemia, neurologic abnormalities, renal dysfunction, and fever. Here we report a case of TTP associated with acute cholecystitis, which can additionally complicate the treatment and course of the disease.

Case report: We present a case of acute cholecystitis in TTP in a 45-year-old man who was brought to the emergency room with nausea and vomiting, yellowing of the skin and mucosa, and abdominal pain in the upper right quadrant. His left arm and left side of the face were numb and his speech was slurred. His lab reports showed normocytic anemia and thrombocytopenia. His ultrasound image showed gallbladder distention. An emergency hemodialysis was performed right after admission and therapeutic plasmapheresis was conducted soon after this. Corticosteroids and suitable antibiotics were included. Plasmapheresis and hemodialysis treatments were continued. Clinical and lab improvements were observed, but the exocrine function of his kidneys didn't show any improvement. He was released 32 days later and was recommended a cholecystectomy and further hemodialysis treatment.

Conclusion: Even though no correlation between TTP and acute cholecystitis was defined, their simultaneous incidence was noticed early on, which clinicians should consider an achievement of the wholesome approach to therapy measures and should help decrease morbidity and mortality.

Keywords: thrombotic thrombocytopenic purpura, acute cholecystitis

CR09

Acute liver lesion after parenteral administration of amiodarone: a case report

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Introduction: Amiodarone is one of the most commonly used antiarrhythmics. An acute liver lesion after parenteral administration of amiodarone is reversible if recognized in time and discontinued and is not accompanied by a high mortality rate.

Case report: A 79-year-old patient was hospitalized in the Intensive Care Unit due to an acute liver lesion and hemodynamic instability. She was treated twice before admission with intravenous amiodarone due to atrial fibrillation. On the day of admission, the patient's laboratory findings show a significant increase of liver transaminases. The ultrasound of the liver is normal. The patient is conscious, with spontaneous, sufficient breathing, hypotensive, tachyarrhythmic (atrial fibrillation with a ventricular response of about 150-190 / min). Vasoactive therapy is included to achieve adequate blood pressure values. Emergency ultrasound of the heart is performed to record the dilated left atrium and the hypertrophic left ventricle. Amiodarone is excluded from therapy and digitalis is switched on and the dose of beta-blockers is increased. On the second day of the patient's stay, she is rhythmically and hemodynamically stable. On the third day, there is a decrease in the value of liver transaminases and the patient is clinically better.

Conclusion: Other possible toxic effects on the liver such as alcohol, mushroom poisoning, ischemic liver lesions, cardiac cirrhosis have been ruled out. In this study, we drew attention to the importance and necessity of monitoring serum transaminase values during and after parenteral administration of amiodarone, with the aim of early detection of acute amiodarone liver lesions.

CR10

Autoimmune hemolytic anemia and indolent lymphoma

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Introduction: Autoimmune hemolytic anemia (AIHA) occurs because of production of antibodies. Apart from primary AIHA, which are idiopathic etiology, it is of great importance to emphasize the secondary causes to AIHA, like systemic lupus erythematosus, scleroderma or a lymphoproliferative disease. This case represents a patient who was diagnosed with an indolent lymphoma – Non- Hodgkin lymphoma (NHL), as an underlying cause of AIHA.

Case report: Patient at the age of 65 was admitted to hospital at the division of hematology in the Clinical hospital center Osijek, because of a suspect autoimmune hemolytic anemia. With the test results, that were previously done in county hospital Vinkovci, it was concluded that the Coombs test, both direct and indirect, were positive. At the time of administration, the values of laboratory results were next: haemoglobin 62g/L, reticulocytes $26x10^{-3}$/E, thrombocytes $72x10^{9}$/L, lactic acid dehydrogenase 421U/L and bilirubin 57µmol/L. Through hematological examination, it was determined that the patient had warm IgG antibodies, C3d complement component, and a moderate rise in anti-TPO antibodies. As for personal anamnesis, patient was diagnosed with hereditary spherocytosis in 1996, and the same year a splenectomy was performed. Through immunophenotyping, a homogenous population of lymphocytes indicated B-cell NHL. A computerized tomography showed multiplied lymph nodes in the upper mediastinu, as well as in middle mediastinum and retroperitoneum. As for therapy, methylprednisolone was introduced, combined with gastroprotection and folic acid. Due to confirmed diagnosis of a lymphoproliferative disease, immunochemotherapy was introduced, including rituximab and bendamustin.

Conclusion: Although AIHA can occur as a result of many underlying conditions, it is very important to take into consideration a lymphoproliferative disease as a primary disorder.

CR11

Balanced reciprocal translocation 7q 9q and mental retardation

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Introduction: Balanced translocations are one of the possible causes of mental retardation (MR). They can lead to disruption in a gene and the order of disrupted sequences may indicate a potential MR gene. There is no data on the frequency of balanced translocations in MR but it they have been instrumental in the identification of multiple genes that are involved.

Case report: Our patient is male with mild MR, slowed speech development, and an orderly phenotype. Amniocentesis was performed at 17 weeks of gestation, where karyotype 46, XY, t (7; 9) (q21.2; q13) was established. The bearer of the translocation is the father. The patient was delivered vaginally after a full-term pregnancy (BW 3300 g, BH 49 cm, AS 10/10) and at the birth, no malformations were noticed. From infancy psychomotor delay was visible. He started walking at 17 months, couldn't control sphincters or use words that have meaning till the fourth year of age. Also, phenotype dysmorphia was present: neck hair growth, strabismus, gothic palate, otapostasis, lower clinodactyly, and single palmar crease. Psychological tests have found mild to moderate MR (IQ 50).

Conclusion: This case is important to highlight because translocation t(7; 9) (q21.2; q13) established in the patient still hasn't been described as a cause of MR. Region 7q21.2 contains the CDK6 gene expressed in the cerebral cortex and his mutation has been described in microcephaly and moderate MR, but no known genes in the 9q13 region associated with MR have been identified.

CR12

Bimaleolar fracture of the right ankle due to a sports accident

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Introduction: We present the case of a 25-year-old patient, the victim of a sports trauma with bimalleolar fracture of the right ankle. She was initially treated in the university center of Cluj-Napoca and after that due to some complications she was urgently transferred to St. Constantine's Hospital of Brasov county. Because of the Covid-19 situation she was subjected to a rapid RT PCR test which was negative and she was brought to the operating room being prepared for the surgery intervention.

Case report: After proper preoperative preparations an osteosynthesis with plate and screws at the external ankle and osteosynthesis with screws at the internal ankle was performed. The postoperative evolution of the patient is favorable, she is afebrile, hemodynamically and respiratory stable, there are no cutaneous trophic changes and the surgical wounds do not present inflammatory signs and pathological secretions. The patient is able to walk on the protected foot with the help of an orthosis following to be discharged 24 hours postoperatively.

Conclusions: The particularity of the case is shown by the fact that this bimaleolar fracture was rapidly managed during the Covid-19 pandemic and the role of the rapid real time PCR test with results in about 50 minutes.

Keywords: Trauma, Ankle, Osteosynthesis, PCR

CR13

Bronchiolitis obliterans organizing pneumonia in a kidney transplant recipient : a case report

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Introduction: Bacterial pathogens and immunosuppressants are the most frequent cause of pneumonia after transplantation. Immunosuppressive drugs significantly reduced the development of graft rejection, but some drugs such as tacrolimus can cause bronchiolitis obliterans organizing pneumonia (BOOP), noninfectious origin type pneumonia.

Case report: A 56-year-old male patient suffering from hypertension and diabetes mellitus type 2, underwent kidney transplantation from a deceased donor in 2018 due to chronic renal disease of hypertensive etiology. Two months later, he was admitted for acute fever up to 39 °C, persistent cough, fatigue and deterioration of renal transplant function. Dehiscence of the operative wound with purulent excretion was determined and treated with cefepime. The X-ray showed no regression of bilateral perihilar lung infiltrates even after the induction of broadspectrum antibiotics and antiviral drugs, so BOOP was suspected. Tacrolimus was replaced with cyclosporine and current corticosteroid therapy was adjusted. During the consultant examination, *Acinetobacter baumannii* and *Candida spp.* were also isolated from the sputum, postoperative wound swab and bronchoalveolar lavage, so colistin and caspofungin were introduced into therapy. Control X-rays showed regression of pneumonic infiltrates and a decrease in inflammatory parameters. Later control findings of the microbiological analyzes were orderly and the transplanted kidney function fully recovered.

Conclusion: BOOP caused by immunosuppressive drugs, such as tacrolimus can be life-threatening in kidney transplant recipients. It is an extremely rare type of pneumonia on which we must suspect when patients don't respond to conventional antibiotic or antiviral therapy. Early diagnosis and corticosteroid treatment are of utmost importance for improving survival.

Keywords: bronchiolitis obliterans organizing pneumonia, kidney transplantation

CR14

Cardiopulmonary resuscitation in patient with non sustained ventricular tachycardia followed by implantation of ICD

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Introduction: Non sustained ventricular tachycardia is defined as ventricular tachycardia that lasts less than 30 seconds. Although it is usually asymptomatic, it can potentially cause symptoms including life-threatening states such as syncope or heart attack that can lead to cardiopulmonary arrest. First-line treatment of cardiopulmonary arrest is cardiopulmonary resuscitation.

Case report: We present an 83-year-old patient admitted to the emergency room due to episodes of weakness and dizziness. Telemetry has established repetitive non sustained VT which was initially treated with amiodarone and regression of ventricular ectopy was achieved. The patient was hospitalized for further investigations. Coronarography showed significant stenosis of LAD at the bifurcation of LCX. In the following days, while in hospital, the patient had an episode of respiratory arrest with loss of consciousness with a pulseless activity on the monitor. Immediate treatment was CPR which was successful and monitor recorded sinus tachycardia. With medicament support patient restored hemodynamics and soon regained consciousness. The patient was administrated for ICD which was implanted. He was released with further therapy: ramipril, bisoprolol, amiodarone, anti aggregational therapy, furosemide, atorvastatin.

Conclusion: With this case we wanted to point out that although conservative therapy can help patients with high-risk arrhythmias, sometimes ICD is the only effective method to prevent sudden cardiac death.

Keywords: cardiopulmonary resuscitation, non sustained ventricular tachycardia

CR15

COVID-19 bilateral pneumonia with pleural effusion

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Introduction: The spectrum of symptomatic SARS-CoV-2 infection ranges from mild to critical, most infections are not severe. We present a patient hospitalized for severe COVID-19 infection with bilateral pneumonia and pleural effusion.

Case report: A 66-year-old male patient, with an unknown SARS-CoV-2 status, presented to Emergency department due to fever, non-productive cough, frontal headache and malaise lasting for 5 days. He has also suffered from arterial hypertension for 15 years. Upon arrival, he was febrile (38,4 °C), mildly tachydispnoic (20/min), with normal heart rate, poorly saturated (SaO_2 96% with 5 liters O2/min) and in poor general condition. He tested positive on SARS-CoV-2 Antigen test. The abnormal findings of laboratory tests consisted of: leukopenia (3.2 x $10x^9$/L) with neutrophilia (77%), mild thrombocytopenia (110 x$10x^9$/L), elevated C-reactive protein (107.8 mg/L), hypokalemia (2.8 mmol/L) and increased level of lactate dehydrogenase (503 U/L). Chest X-ray showed bilateral interstitial infiltrates with small pleural effusion in the left lateral phrenicocostal sinus and enlarged heart shadow. The patient was treated with intravenous crystalloids with potassium replacement, remdesivir/5 days, dexamethasone/10 days, oxygen therapy and enoxaparine. Acute illness has shown gradual regression, and after 10 days, the patient is discharged in a good general condition and with stable vital signs.

Conclusion: It is important to recognize COVID-19 presentations and start appropriate therapy in a timely manner, especially in increasing age patient. This is a good example of classic COVID-19 severe presentation and its successful management.

Keywords: COVID-19, bilateral pneumonia, severe

CR16

Isolated systolic hypertension in youth

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Introduction: Isolated systolic hypertension (ISH) is defined by systolic blood pressure (BP) ≥ 140 mmHg and diastolic BP < 90 mmHg. It is the most common type of hypertension (HT) in adolescence and young, especially in young men.

Case report: 24-year-old male patient referred to the HT center due to high BP. Several months earlier he was examined in cardiology outpatient clinic, beta-blocker was introduced and cardiologist concluded that further evaluation of hypertension either etiology or severity is unnecessary. Several weeks after the visit, patient stopped taking beta-blocker because of fatigue. At visit in the hypertension center patient was not obese (BMI 26.8 kg/m2), and his office blood pressure was 175/90 mmHg and heart rate 107 b/min (aver. of 3 measurements). Ambulatory BP monitoring (ABPM) confirmed the diagnosis of ISH with white coat effect. Central aortic pressure (CAP) measurement (tonometry of radial artery) revealed normal CAP with exaggerated pulse pressure amplification. Based on these facts, patient was advised about healthy lifestyle, yearly controls without need for drug treatment.

Conclusion: ABPM and CAT measurement are valuable tools in diagnostic process of HT in all, and particularly young subjects with high office BP. This simple algorithm saves time and money to health care system and spears young healthy subjects of unnecessary antihypertensive drugs.

Keywords: hypertension, blood pressure, ambulatory blood pressure monitoring, central aortic pressure, youth

CR17

Resistant hypertension

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Introduction: Resistant hypertension (RHT) is defined as uncontrolled blood pressure (BP) despite taking maximum tolerated doses of at least 3 antihypertensive drugs, of which one is thiazide diuretic. Pseudoresistance is defined as uncontrolled BP because of patient non-adherence. Secondary causes of HT should be ruled out. RHT is associated with severe cardiovascular (CV) complications. Renal denervation (RDN) is an invasive procedure for RHT. Endovascular catheter ablation of sympathetic nerve endings in adventitia of renal arteries causes significant BP decrease in majority of patients.

Case report: A 48-year-old male with RHT had a 2-year history of HT, diabetes type 2 and dyslipidemia. HT was uncontrolled despite 6 antihypertensive drugs (perindopril / indapamide / amlodipine + moksonidine + nebivolol + spirononalctone). Secondary forms of HT where excluded and chemical evaluation of urine revealed that patient is truly adherent. Ambulatory blood pressure monitoring (ABPM) found high BP (average day-time 154/89 mmHg) and non-dipping pattern. Central aortic pressure (CAP) was high (159 mmHg) and carotid-femoral pulse wave velocity (cfPWV) was above cut-off range (14.3 m/s). Six months after RDN, significant improvements were observed: ABPM daytime BP 128/77 mmHg with restored dipping pattern, CAP was in normal range 122 mmHg, and substantial decrease of cfPWV was achieved.

Conclusion: Renal denervation is relatively new invasive procedure for treating resistant HT. In most of patients it causes BP decline decreasing global cardiovascular risk. However, it does not cure HT and patients should take drugs and change poor life-style habits.

Keywords: COVID-19, bilateral pneumonia, severe

CR18

Phoenix ressurection - a case of metastatic breast cancer

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Introduction: Breast cancer is the most common cancer among women, and despite advances in screening, diagnosis, and treatment, nearly 12% of patients eventually develop metastatic disease.

Case report: In 2017, the patient noticed a lump in her right breast. Breast ultrasound showed inhomogeneous parenchyma with irregular hypodensities. A core biopsy was performed in June 2018 and a pathohistological finding directed to invasive ductal breast cancer. Positron emission tomography scan performed in July shows the spread of the tumor to the axillary lymph nodes and the bone. The application of systemic chemotherapy (Doxorubicin, Endoxan) begins immediately in July until December, where the last 9th cycle of therapy is applied. Further treatment with tamoxifen and a luteinizing hormone - releasing hormone agonist is then indicated. A month later, weekly paclitaxel is started. In November she was hospitalized at the Neurology for loss of balance and difficulty speaking. Intracranial venous sinus thrombosis is diagnosed and the condition improves after adequate anticoagulant therapy. On a ninth day, the patient's condition suddenly deteriorated and she became extremely sleepy, restless, and agitated. Leptomeningeal dissemination was determined on the magnetic resonance of the brain. The patient stopped communicating, her gaze was directed upwards and her left arm was motionless. After that, she was hospitalized at the Oncology for the application of methotrexate intrathecally on two occasions and central nervous system radiotherapy. The patient arrives in January 2020 with no neurological deficits. In March, chemotherapy (CMF protocol) will be started, as well as adequate hormone therapy. At the last control 11.01.2021. the patient was in good general condition.

Conclusion: Despite numerous complications of intrathecal chemotherapy, it should remain a necessity for breast cancer patients with leptomeningeal dissemination.

Keywords: Breast cancer, intrathecal chemotherapy, leptomeningeal dissemination

CR19

Case report: Prolonged course of COVID-19

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Introduction: Patients with pre-existing comorbidities and immunosuppression are at greater risk for severe manifestations of COVID-19. We present a middle age patient without underlying chronic medical conditions with prolonged course of COVID-19 hospitalized at the University Hospital for Infectious Diseases „Dr. Fran Mihaljević" Zagreb (UHID).

Case report: A 42-year-old male patient, SARS-CoV-2 positive without known risk factor for COVID-19, was admitted to the UHID for fever, non-productive cough, difficulty breathing and malaise lasting for 7 days. On admission, he was febrile (38.3 °C), tachycardic (115/min.), tachydispnoic (30/min.), with hypoxemia (SaO_2 88%) and serious general condition. C-reactive protein was elevated (156.6 mg/L), while other biochemical and hematological findings were unremarkable. Chest X-ray showed bilateral interstitial reticular infiltrations typical for COVID-19. The patient was treated with corticosteroids, remdesivir, antipyretics, enoxaparine and oxygen. Control chest X-ray (20th day of hospitalization) revealed more extensive infiltrates with pleural effusions. Due to prolonged course of the disease, on the 24th day of hospitalization MSCT pulmonary angiography was performed. No embolus was found, while in the pulmonary „parenchymal" window revealed ground glass" and „crazy paving" opacities in all pulmonary segments, bilateral panlobular emphysema and forming bullae. Therefore, the patient was treated with antitussive medicine. By the 31st day of illness the patient was disharged with improved general condition, respiratory function and laboratory results.

Conclusion: Our report revealed that the course of COVID-19 may be severe and long-lasting in middle age patients without comorbidities and with lungs being most affected by SARS-CoV-2.

CR20

Multidisciplinary approach and treatment options to patients with colorectal cancer metastatic to the liver

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Introduction: Colorectal cancer is amongst the most common malignancies in the world and is associated with relatively high mortality, the fourth in the world. The liver is the most common metastatic site due to its anatomical connection with portal circulation.

Case report: Our patient is a 48-year-old female who was examined by a gastroenterologist for stool disorders. In October 2017, she was hospitalized with ileus which was differentiated as metastatic colon cancer with invasion in lymph nodes, adipose tissue, and perineural space. In November anterior rectal resection with lymphadenectomy was performed. Positron emission tomography scan (01/2018): multiple pathological lesions of the liver parenchyma (10) size of 18.4 mm - 90 mm. Tumor markers were high. No mutation was detected in KRAS, NRAS, BRAF genes. She received I cycle of systemic chemotherapy (KT) - FOLFIRI protocol with cetuximab in February, up to a total of 8 cycles. In June, radiosurgery of 10 liver metastases was performed, 1x25 Gy applied to each lesion. One month after the procedure, only 3 liver metastases were visible on the computerized tomography. KT continued, and in November the last cycle was administered. In February of 2019, magnetic resonance showed only two lesions of the liver. Tumor markers were in decline. A month after, hepatic metastasectomy was performed. Histologically, liver tissue showed large areas of necrosis without tumor cells.

Conclusion: This case is important to highlight that there are nuamerous treatment options for metastatic colorectal cancer. By combining radiosurgery, systemic chemotherapy, and biological therapy, excellent results can be achieved even in stage IV of this deadly disease.

Keywords: Colorectal cancer, liver metastases, multidisciplinary approach

CR21

Persistent SARS-CoV-2 infection in a patient with non-Hodgkin lymphoma treated with obinutuzumab and CHOP (G-CHOP)

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Introduction: From the beginning of COVID-19 pandemic it was evident that immunocompromised patients may develop severe and prolonged infection course. Herein, we present challenges of SARS-CoV-2 pneumonia management in a patient treated with anti-CD20 monoclonal antibody obinutuzumab in combination with chemotherapy (G-CHOP) for non-Hodgkin lymphoma (NHL).

Case report: A 54-year-old patient with a history of arterial hypertension and hyperlipidemia tested positive on SARS-CoV-2 in September 2020 after 4th cycle of G-CHOP for follicular NHL. In October he was admitted to local hospital for pneumonia and treated with remdesivir, dexamethasone, antimicrobials, intravenous immunoglobulin (IVIg) substitution, tocilizumab, high-flow oxygen therapy (HFOT) and discharged home in November with continuous oxygen therapy. In December, the fever re-occurred and was transferred in University Hospital Dubrava. The swab was positive for SARS-CoV-2 and no antibodies were serologically detected. A CT scan showed diffuse bilateral inflammatory infiltrates. Bronchial aspirate and hemocultures were negative for pathogens. He was treated with HFOT, high doses of corticosteroids, and antimicrobials empirically. In addition, patient received immunomodulation dose of IVIg without improvement. Eventually, convalescent plasma was applied for six days. The fever resolved with regression of infiltrates on CT, but SARS-CoV-2 swab was positive. Patient was discharged from the hospital without oxygen supplementation. However, a week later his symptoms re-occurred requiring hospitalization.

Conclusion: This case shows that patients with B-cell depletion after anti-CD20 treatment may develop persistent SARS-CoV-2 pneumonia. After failure of standard treatment including IVIg, the use of convalescent plasma was successful, yet temporary. Novel options are needed in these patients.

Keywords: COVID-19, non-Hodgkin lymphoma, obinutuzumab, convalescent plasma, intravenous immunoglobulin

CR22

Effect of lifestyle on frequency of urinary tract infections

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Introduction: Urinary tract infections can affect any part of the urinary tract. Infection of the bladder, cystitis, is the most common. The cause of infection is usually Escherichia coli, but other microorganisms can also be a cause. Risk factors include female urethra anatomy, immunosuppression, diabetes, sexual intercourse, lack of hydration, oral hormonal contraception and others. These infections occur more frequently in women, while in men they are more often complicated.

Case report: We present a 33-year-old woman with recurrent cystitis. It was most commonly caused by E. Coli or Klebsiella and treated with cephalosporin or nitrofurantoin. Dysuria and urinary urgency occurred about 2-3 times a year. She also has polycystic ovary syndrome for which she's taking oral hormonal contraception. The patient works in a store in which she doesn't have the ability to use the toilet when she wants, and as a result her daily water intake is very low. Recidivating acute cystitis requires a urine culture, urinary tract ultrasound and gynecologic investigation which were all made. Urinary tract abnormalities, vesicoureteral reflux and sexually transmitted diseases were excluded. Endocrinologic opinion was that she was not a candidate for switching from oral hormonal contraception to metformin. After quitting her job, the frequency of infections decreased significantly.

Conclusion: Despite adequate treatment and prophylaxis, this patient's cystitis continued to occur. Even though she does have predisposing factors such as female gender and oral hormonal contraception, her work conditions obviously played a large role. Changes to the patient's lifestyle must never be forgotten in any treatment.

CR23

Case report: chondrosarcoma of the proximal phalanx of the fifth digit

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Introduction: Chondrosarcomas are rare tumors with incidence of 1 per 100,000 individuals worldwide and are the second most common primary malignant sarcoma of the bone, accounting for 20%. Peak incidence is between 40-60 years of age for central or primary chondrosarcomas arising de novo and for secondary or peripheral chondrosarcomas between 25-45 years of age. The bones of hands and feet are rare locations for chondrosarcoma. Most common location for hand chondrosarcoma is in the fifth phalanx and least common in the fourth phalanx.

Case study: We report a case of a 65-year-old woman who presented to our hospital due to a painful mass measuring 8,7 x 4,0 cm on the fifth digit of the left hand and restricted movement. Mass was present for approximately 30 years and recently became larger. The radiograph showed a destructive, osteoblastic osteogenic tumor of the proximal phalanx and osteosclerotic insertions of the fifth metacarpal bone. Tumor had non-intense vascularization. Distant metastases were not observed. The patient underwent tumor resection and amputation of the fifth digit. Histologic examination of the specimen confirmed G2 chondrosarcoma diagnosis, resection area was clean. Patient is currently followed-up for local recurrence and metastasis.

Conclusion: Hands are rarely involved by primary chondrosarcoma with scarce information in the literature. Chondrosarcoma of the phalanges of the hand has low potential for metastasis, but risk of local recurrence is high if surgery is insufficient. Therefore, for finger chondrosarcoma amputation is usually recommended.

CR24

Patient with stable coronary artery disease and prediabetes

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Introduction: Prediabetes is a component of metabolic syndrome with elevated blood sugar levels (HbA1c: 5,7-6,5%) that does not reach the diabetes threshold. However, prediabetes is recognized as independent risk factor for cardiovascular diseases and vascular complications. But with lifestyle changes people can prevent type 2 diabetes and other complications including vascular. Unfortunately, the importance of prediabetes management is often under-appreciated by clinicians and patients.

Case report: This case report presents female patient 63 years old. She was undergoing planned elective percutaneous coronary intervention (PCI) and then intravascular ultrasound imagining (IVUS). Patient in anamnesis had arterial hypertension, atrial fibrillation, chronic heart failure and heart attack. She used statin, ACE inhibitors, anticoagulant and beta blockers therapy. Patient had normal BMI 24,65 kg/m2 , but increased HbA1c 5,9% - prediabetes. IVUS tissue content results showed vulnerable plaque - fibrotic 39,70%, lipidic 17,91%, necrotic 35,23%, calcified 3,97%. At discharge patient was informed about the significance of prediabetes. She was instructed to change lifestyle. After 2 years patient had changed her diet and physical activities. HbA1c levels (5,6%) and BMI (23,83 kg/m2) was decreased. IVUS results was improved - fibrotic 57,75%, lipidic 10,17%, necrotic 21,15%, calcified 8,56%.

Conclusion: Patient had changed her lifestyles which led to decreased BMI, HbA1c and IVUS results showed plaque stability. Lifestyle changes has a big impact on medical problem improvement, and it needs to be explained to any patient.

Keywords: prediabetes, coronary artery disease

CR25

Anti-synthetase syndrome: a case report

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Introduction: Anti-synthetase syndrome (ASS) is a chronic systemic autoimmune disease represented as idiopathic inflammatory muscle disease. It is a rare condition with unknown etiology and prevalence, characterized by myositis, interstitial lung disease and arthritis. The main indicator of ASS is the presence of serum antibodies (anti-ARS) for aminoacyl-tRNA synthetases – enzymes that take part in protein synthesis.

Case report: We present a case of a 49-year-old male patient who was admitted to the Emergency department, febrile with cough for the last two days. For the past month, he has had myalgia and arthralgia in both his arms and legs. In addition, over the last two weeks, patient has lost 5 kg of body weight. Laboratory findings showed increased inflammatory parameters (CRP 305.8 mg/L, Lkc 18.1 x 10^9/L). Immunology tests included: ENA screening results, which were positive with highly positive value of Jo-1 antibodies (anti-ARS): 85 AU/mL and positive rheumatoid factor (RF). EMG showed a myopathic pattern, indicating poliomyositis, but values of creatine kinese remained normal. As for the lungs, DLCO was significantly reduced (43%), while CT and BAL indicated interstitial fibrous changes of the lung parenchyma. The patient was treated with glucocorticoids 1mg/kg (prednisone-Decortin) - with gradual decrease of dosage, and addition of azathioprine (Imuran). Due to active disease, i-v-monthly pulse of cyclophosphamide was started instead of azathioprin. The outcome of treatment is to date favorable and further follow-up is mandatory.

Conclusion: Pulmonary complications of interstitial lung disease in anti-synthetase syndrome are the leading cause of complications and mortality, most commonly due to respiratory failure, secondary pulmonary hypertension and development of the pulmonary heart – therefore, early detection and treatment is of utmost importance.

Keywords: anti-synthetase, Jo-1-antibodies

CR26

Cervical Varix as a Cause of Vaginal Bleeding in the Second Trimester of Pregnancy

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Introduction: Vaginal bleeding during pregnancy is a risk factor for adverse pregnancy outcome. In rare cases, cervical varices may be the cause of bleeding. They most commonly appear in the second trimester, and are related to placenta previa. They result in high morbidity, premature birth and a necessity for surgical delivery.

Case report: We present a case of a 42-year-old pluriparous woman with varicose veins of the cervix diagnosed during the second trimester. She was admitted to the clinic at 20 weeks of gestation due to vaginal bleeding. Profuse bleeding was observed from a dilated vein on the anterior labium of her cervix. Transvaginal ultrasound confirmed the diagnosis. Placenta previa was also observed. After the bleeding was stopped, cervical cerclage was performed. At 38 weeks the suture has been removed and labor was succesfully induced. During the labor the varix ruptured and cervical tamponade was used, along with uterotonics, to stop the bleeding. The rest of the labor was uneventful. One month after, at the checkup, a significant regression of the varix was noted, though it was still somewhat visible on the transvaginal ultrasound.

Conclusion: Pregnancy is often followed by venous varices, most commonly in the hemorrhoidal plexus, vulva, and lower extremities. Cervical varices are quite rare. The most favorable approach is to observe the patient, with cervical cerclage being used only if there's no bleeding. Due to the rare nature of the condition, no specific guidelines have been defined yet.

Keywords: cervical varices, placenta previa, cerclage

CR27

Controversial role of PET/CT imaging in primary gastric lymphoma

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Introduction: Primary gastric lymphoma (PGL) is a rare gastrointestinal (GI) tract disease, a non-Hodgkin lymphoma ranging on a spectrum from marginal zone lymphoma to aggressive diffuse large B-cell lymphoma. Staging this disease is a challenge due to complex lymphatic connections of the stomach and high invasiveness of biopsy techniques. Therefore, clinicians tend to use PET/CT in order to better locate the lymphatic dissemination.

Case report: We present a case of a 71 years old male patient who was admitted to the hospital with postprandial epigastric pain. Physical exam was unremarkable; bioumoral tests showed a mild inflammatory syndrome and upper GI endoscopy revealed a proliferative process localized in gastric antrum; biopsy samples were taken for histopathologic examination, followed by immunohistochemistry tests. In addition, a contrast substance CT was performed and showed indirect signs of a gastric neoplasia. PET/CT, used for disease staging, exhibited two pleuro-pulmonary lesions assessed as ganglion cells invasion. After surgical resection, the histopathological examination showed features of active mycobacterial granuloma. Treatment with 7 courses of rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone (R-CHOP) had a spectacular favorable outcome.

Conclusion: This case outlined that PET/CT imaging can sometimes be misunderstood in gastric lymphoma staging, especially when several metabolically active lesions are detected.

Keywords: gastric lymphoma, PET/CT, mycobacterial granuloma

CR28

COVID-19 in a patient with head trauma and multiple preexisting comorbidities

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Introduction: With more than 95 million confirmed cases and over 2 million deaths worldwide, COVID-19 pandemic has indeed become our new normal. SARS-CoV-2 affects people of all age groups and health conditions. The aim of this case report is to present you a case of a COVID-19 patient with multiple preexisting comorbidities.

Case report: A 61-year-old man was admitted to the emergency room due to head trauma with accompanying nausea and a periocular hematoma. He had multiple preexisting conditions: diabetes, hypertension, transplanted kidney and earlier myocardial infarction. An emergency computed tomography (CT) was performed and showed right frontotemporal subarachnoid hemorrhage, right cerebral edema and right subdural hematoma. He tested negative for COVID-19. The patient was admitted to neurosurgery department, a second CT was performed showing progressive intracranial bleeding with no need for surgical intervention. During hospitalization, he became febrile and chest x-ray showed bilateral bronchopneumonia, whilst blood gas analysis showed respiratory insufficiency. A second COVID-19 test was positive. A follow-up CT showed a hemorrhage regression, but there was a significant drop in oxygen saturation as well as ABS degradation that required mechanical ventilation. In spite of antibiotic treatment combined with corticosteroid, thromboprophylactic, gastroprotective and analgosedative therapy, the patient developed multiorgan failure and died 22 days after admission.

Conclusion: Older adults and chronically ill people are at greater risk of being seriously affected by COVID-19. Therefore, the primary cause of death of this patient probably wasn't intracranial bleeding, but the complications caused by COVID-19 infection which aggravated the preexisting comorbidities.

Keywords: COVID-19, SARS-CoV-2, intracranial bleeding, comorbidities

CR29

COVID-19 infection in patient with autoimmune hemolytic anemia: a case report

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Introduction: Autoimmune hemolytic anemia (AIHA) is rare autoimmune disorder caused by production of autoantibodies that react to self red blood cell (RBC) antigenes with consequent destruction of erythrocytes. The majority of AIHA is caused by warm agglutinin disease and mediated via IgG autoantibodies. COVID-19 is pneumonia syndrom caused by infection with SARS-CoV-2 virus. It shows broad range of clinical presentation, from asymptomatic to critical, and is rarely reported in patients with AIHA. We report the first case of a patient with COVID-19 and AIHA without underlying disorder in Croatia.

Case report: 78-year-old woman with a medical history of bronchale astma.She presented with dyspnea, dry cough and fatigue, without fever. Her oxygen saturation on ambient air was 98%. RT-PCR assay detected the presence of SARS-CoV-2 RNA in the nasopharyngeal swab. The chest X-ray revealed a ground-glass pattern on the left lung. Blood test results revealed: Hemoglobin 52 g/L, RBC count of $1,6*10^{12}$/L, reticulocyte count of 124.6×10^{3}/l , white blood cell count of $6,2*10^{9}$/l, platelet count $317*10^{9}$/L,Lactate dehydrogenase 509 U/l, total bilirubin 40 µmol/L. Direct Coombs test was 4+ for IgG and C3d. The patient was diagnosed with COVID-19 and AIHA. On the first day, 2 RBC concentrates were administrated and the patient started methylprednisolone 1 mg/kg /day. Hemoglobin raised to 112 g/L after 7 days.

Conclusion: Corticosteroids could be used with success in AIHA triggered by SARS-CoV-2 infection, but the initial dose should be the lowest possible that improves patients` condition, in postinfectious period dose of corticosteroids can be raised.

CR30

Covid-19 infection in a patient with multiple sclerosis: a case report

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Introduction: Multiple sclerosis (MS) is a chronic, demyelinating disease. It is presented with relapses, which can result in permanent neurologic deficits, and remissions. If diagnosed on time, it can be properly treated with disease modifying therapy (DMT) and slow down the degeneration of the central nervous system. Some DMTs lead to decrease in the number of the lymphocytes, which increases the risk of serious viral infections.

Case report: A 68-year-old female presented with dry cough, dyspnea, nausea, fatigue, myalgia, headache and subfebrile temperature in June 2020. She has had MS for 14 years and uses fingolimod as chronic therapy. Test for the SARS CoV-2 arrived negative twice, but she was already admitted to the Infectious Diseases Clinic due to high suspicion for Covid infection because of the direct contact. She also presented with grade 3 lymphopenia and, after careful consideration, fingolimod was excluded from the therapy. The third test was positive. She was parenterally rehydrated and treated with antipyretics, low-molecular heparin, azithromycin and vitamins. She was released from the hospital after 12 days. Continuation of the fingolimod was planned after complete recovery. In post-Covid state, the patient had transient thyroid dysfunction.

Conclusion: MS alone isn't a risk factor for Covid infection, but its treatment is. Recent studies have shown that temporary discontinuation of DMTs is acceptable. Long term, it can lead to more severe and frequent relapses. It is also shown that some DMTs have a high safety profile for viral infections, so there is no need for their discontinuation.

Keywords: multiple sclerosis, Covid-19, fingolimod, DMT

CR31

COVID-19 infection in patient with psoriatic arthritis on biological (bDMARD) therapy

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Introduction: Psoriatic arthritis (PsA) is a chronic inflammatory arthritis represented with joint pain, stiffness and swelling. PsA clinical symptoms are variable and besides peripheral joint affection can include development of spondylitis, enthesitis and dactylitis. The aim was to investigate a possible correlation between bDMARD therapy, glucocorticoids, and outcome of COVID-19 infection.

Case report: We present a 44-year-old female patient with a medical history of hypothyroidism and vulgar psoriasis which progressed to PsA. She had severe pain in lumbosacral spine, right shoulder, elbow, hip, and knee without swelling. Also, she had psoriatic skin lesions on her back and retroauricular areas. Due to active PsA of peripheral joints, patient was treated with different csDMARDs, but treatment was stopped due to gastrointestinal side-effects and liver toxicity. Therefore, patient was included in a clinical investigation for treatment of active PsA with biological therapy (Risankizumab), which is approved by the Croatian-Rheumatological-Society (CRS) for the treatment of psoriasis. Risankizumab is a humanized IgG1 monoclonal antibody that targets IL-23 and interferes with its ability to activate psoriatic lesions. In November 2020., patient tested positive for SARS-COV-2. Blood work showed increased parameters in leucocytes, ALT and GGT. She experienced most of COVID-19 related symptoms and was prescribed glucocorticoids (Dexamethason). After two weeks of therapy, she experienced withdrawal of pain and psoriatic skin lesions. CRS does not recommend systemic glucocorticoids in treatment of PsA, although it is routinely prescribed in short term courses during worsening of symptoms.

Conclusion: Patient had positive outcome and recovery from COVID-19 with bDMARD therapy and glucocorticoids, indicating bDMARDs could be a safe treatment for PsA in COVID-19 pandemic.

Keywords: psoriatic arthritis, bDMARD, glucocorticoids

CR32

Delayed puberty as the first manifestation of MEN 1

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Introduction: Multiple endocrine neoplasia type 1 (MEN 1) is a rare, autosomally dominantly inherited disorder, characterized by predisposition to tumors of parathyroid glands, anterior pituitary gland, and pancreas. It is caused by mutations of the MEN 1 gene located on chromosome 11, which encodes the tumor-suppressor protein menin.

Case report: We present a case of a 32-year-old male , who underwent pituitary prolactinoma surgery 12 years ago. From the age of 16, he was followed-up by a pediatrician due to growth restriction and development during puberty. Late puberty onset was also observed in his uncle. Several years ago, numerous family members of the maternal line had some type of tumorous growth. One aunt had pancreatic cancer and was positive for MEN 1 mutation. Another aunt had lung carcinoid. One cousin had pancreatic and liver tumors, and MEN 1 mutation which was also confirmed among his children. The patient's mother was treated for suspected primary hyperparathyroidism with MEN 1 mutation. MEN 1 mutation was also diagnosed to patient's sister. The patient underwent molecular genetic analysis: genotype MEN 1 was confirmed: c(572dupG);(=),p.((Glu191Glyfs*5));((Glu191=)), with a high probability that the variant is pathogenic. Future follow-up is planned: calcium, prolactin, magnetic resonance (MR) of the pancreas (every year) and MR of the sellar region (every 3 years).

Conclusion: MEN 1 is an inherited syndrome, so if any of the clinical features of the syndrome occur in the family, a whole family screening should be performed to allow for early diagnosis and treatment of the tumor.

Keywords: genetic testing, multiple endocrine neoplasia type 1 (MEN 1), pancreatic islet cell tumor, pituitary adenoma, primary hyperparathyroidism

CR33

Diffuse Large B-Cell Lymphoma in a Patient With Chronic Lymphocytic Leukaemia (Richter Transformation)

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Introduction: Richter transformation (RT) is a rare condition in which chronic lymphocytic leukaemia (CLL) changes into a fast-growing type of lymphoma, most commonly diffuse large B-cell lymphoma (DLBCL).

Case report: A 70-year-old male was presented with polyuria, frequent nocturia, anaemia and loss of weight. MSCT was performed; hepatosplenomegaly and enlarged conglomerates of retroperitoneal lymph nodes were found. Cytological examination of the bone marrow indicated lymphocytic proliferation (39% of lymphocytes on average, compared to the 14% four years before). Ten years prior, he was diagnosed with B-CLL (CD20 weak+, CD5+, CD38+, kappa+), coupled with secondary immunothrombocytopenia and skin ecchymoses. He was admitted rituximab and methylprednisolone. He relapsed a year and a half later and was treated with FCR protocol in six cycles. Thenceforth, he had multiple relapses and was receiving rituximab. Ten months after the aforementioned presentation, due to enlarged retroperitoneal lymph nodes and a new lymphonodal conglomerate in the right side of the neck (cytological puncture viewed lymphocytic proliferation), cytological examination of the bone marrow viewed a worsened lymphocyte count (73%) with signs of myelosuppression. He was treated with BR immunochemotherapy in six cycles, but MSCT viewed a further enlargement of the neck lymph nodes. Pathohistological analysis of the extirpated lymph nodes confirmed RT (23% of monoclonal B-cells, CD5+, BCL2+, MUM-1+, C-MYC and CD23+, CD3-, CD10-, BCL6-, Ki67=95%, less than 1% of the cells had CD30+).

Conclusion: As RT is more likely to occur in CLL patients during the years, it should be considered as a possibility during the long-duration monitoring of CLL patients.

CR34

DiGeorge syndrome: a case series with different phenotypic expressions

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Introduction: DiGeorge syndrome is the most common microdeletion syndrome caused by 22q11.2 deletion. Long-term outcomes depend on the severity of the disease. With treatment, life expectancy is relatively normal.

Case report: We present a case series of 4 living patients with DiGeorge syndrome. The first patient is a 12-year-old male with following traits: facial hypertelorism, bulbous nasal tip, wide philtrum, gothic palate and clinodactyly. He has hypoparathyroidism, no neurological deficits but has a mild mental retardation. The second patient is a 7-month-old male with following traits: facial dysmorphia, mongoloid eyes and irregular dentition. He has severe cardiac defects and autoimmune thyroiditis, but does not have immunodeficiency. Intellectual and speech development are delayed. The third patient is a 10-month-old female with following traits: macrocrania, hypertelorism, wide philtrum, gothic palate and dysmorphic auricles. She has a severe congenital heart defect - DORV, that has been successfully surgically corrected. She has bilateral conductive hearing loss, severe neurological deficits and a selective IgA deficiency, resulting in frequent infections. She also has a severe mental retardation and a communication disorder.The fourth patient is a 3-month-old male with following traits: mild hypertelorism, cleft palate, micrognathia, bulbous nasal tip, wide philtrum and otapostasis. He had recurrent respiratory infections. Intellectual and speech development are delayed.

Conclusion: In the absence of typical clinical findings such as is the case in some of our patients, DGS must be considered in the differential diagnosis of developmental delay and dysmorphic features. Early diagnosis may prompt management of learning difficulties.

CR35

Erythrocytosis as the primary sign of renal carcinoma: a case report

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Introduction: Renal cell carcinomas (RCC) are typically presented with a classic triad of symptoms: macrohematuria, loin pain and palpable mass, but some of the patients develop one or more paraneoplastic syndromes. The most common paraneoplastic syndromes are erythrocytosis and hypercalcemia. Here we present a patient in whom the first sign of RCC was erythrocytosis in laboratory findings.

Case report: A 59-year-old patient reported to the hematology clinic for additional treatment of established erythrocytosis in laboratory findings. Blood count values indicated pronounced erythrocytosis (erythrocytes $8.37x10^{12}$, hemoglobin 224 g/L, hematocrit 0.676) with normal leukocytes and platelets value. The patient complained about headaches without dizziness, accompanied by pronounced redness of the face. A significant finding in the physical status is a facial plethora. Additional testing revealed an elevated value of erythropoietin (28.03 IU/L) indicating a secondary cause of erythrocytosis. An ultrasound of the abdomen was performed which showed expansive formation of the upper part of the right kidney. Additionally, computed tomography was performed and expansive formation in the upper pole of the right kidney measuring 64x76x72 mm was described. The patient was treated with venipunctures until surgery. She underwent a right-sided nephrectomy and was diagnosed with clear RCC. After surgery there was no erythrocytosis in laboratory findings.

Conclusion: In the treatment of secondary causes of erythrocytosis, always consider RCC as a possible cause. Given the rarity of the presentation of RCC with a classical triad, if any form of paraneoplastic symptoms occur, detailed additional processing is needed.

Keywords: erythrocytosis, paraneoplastic syndrome, plethora, renal cell carcinoma

CR36

Fibular Tunnel Syndrome after Ankle Sprain

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Introduction: Fibular tunnel syndrome is the most common tunnel syndrome of the lower extremity and can be caused by numerous of factors. Less commonly it develops after an ankle sprain.

Case report: 20-year-old male presented with left foot drop. 5 months ago, patient sprained his ankle while walking down the stairs. After the incident he did not notice any changes in the movement of the foot. But in a period of 4 days, the dorsiflexion of the foot gradually decreased until he could not move it at all. MRI and X-ray scans of the spine and left leg showed only age-related degenerative changes. He was treated conservatively without any improvement. Eventually he was referred to a plastic surgeon. The neurological examination on admission revealed reduced dorsiflexion and eversion of the foot, hyperesthesia in the common peroneal nerve sensation area of the left leg. Sural nerve sensation area was normal. Palpation of the nerve at the fibular tunnel was painful and Tinel sign was positive. A diagnosis of fibular nerve tunnel syndrome was established. Surgical decompression of common peroneal nerve was performed. Next day after the decompression, patient could flex his foot to 90 degrees, hyperesthesia disappeared completely.

Conclusion: Fibular tunnel syndrome could be caused by an ankle sprain. Clinical evaluation and thorough taking of patient's anamnesis are the main factors of establishing the fibular tunnel syndrome diagnosis. When diagnosed, the most effective treatment is surgical decompression of common peroneal nerve.

CR37

Fibular Tunnel Syndrome in a Pediatric Patient

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Introduction: The most frequent peroneal neuropathy is fibular tunnel syndrome. Although this neuropathy is not uncommon, establishing the right diagnosis can sometimes be challenging, especially in children.

Case report: 11-year-old female presented with a right-sided foot drop of 16 months duration. Foot drop developed gradually about 2 months after the car accident, which happened 18 months ago. Despite physical therapy, foot drop did not resolve and she was referred to a plastic surgeon. The neurological examination on admission revealed weakness in dorsiflexion and evertion of the foot, paresthesia in the common peroneal nerve sensation area. Palpation of the nerve at the fibular tunnel area was painful. There also was a noticeable right foot growth slowdown, resulting in right foot being 2 cm shorter than the left. Diagnosis of fibular tunnel syndrome was established. Surgical decompression of right common peroneal nerve was performed. Postoperatively there was an immediate improvement in dorsiflexion and eversion of the foot. Paresthesia was no longer present. No residual weakness in the dorsiflexion of right foot was found in the last follow-up at 11 postoperative months. The slowdown of right foot growth was no longer presents, as the size difference between feet remained the same.

Conclusion: Fibular tunnel syndrome is often misdiagnosed resulting in improper treatment of the condition. Early diagnosis of fibular tunnel syndrome is even more important in children, where this condition, if untreated, can result in slowdown of the foot growth. When diagnosed, the most effective treatment is surgical decompression of common peroneal nerve.

CR38

Case report: high grade osteosarcoma

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Introduction: Osteosarcoma is a rare cancer and mostly affects children and young adults. Overall, the 5-year survival of patients with osteosarcoma is less than 70% and drastically decreases if metastases are present. Therefore, early diagnosis is essential not only for a higher chance of satisfactory results but also to minimize adverse medical conditions, risk of function loss, disability, and pain.

Case report: 17year-old boy was referred to our hospital due to severe right knee pain in December 2015. Two months prior, he felt the first symptom – mild knee pain. A radiograph of his knee showed increased bone density in the right proximal tibia. MRI showed that a mass occupied the part of the right tibia, where sclerosis was seen on the radiograph, and edematous soft tissues around the lesion. Bone scintigraphy showed an abnormal uptake. Pulmonary CT was normal. A biopsy was performed – high grade osteosarcoma. Immediately after the diagnosis, neoadjuvant chemotherapy was started followed by a resection of the right upper tibia and arthroplasty with megaprosthesis. After surgery adjuvant chemotherapy was applied again. After 4 years of follow-up, no recurrence was noted. A physical examination showed good function and all movements of the knee were pain-free. The patient is followed-up by an orthopedic oncologist every 6 months.

Conclusion: The clinical presentation of osteosarcoma is highly variable and generally nonspecific. It is important for general practitioners while differentiating causes for localized pain in children and teenagers to remember osteosarcoma as a possible diagnosis.

CR39

First case report of COVID-19 associated meningoencephalitis in Croatia

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Introduction: SARS-CoV-2 virus, after emerging in China, December 2019, has rapidly spread all over the world. Although it mostly causes respiratory issues, this case report shows a patient with COVID-19 associated meningoencephalitis. Given the rarity of such presentation, severe neurological symptoms should be considered as a possible manifestation of the disease.

Case report: A 86-year-old man with aphasia and impaired consciousness was brought in by the ambulance. Ten days before the symptoms occurred, the patient had tested positive for SARS-CoV-2 but had been asymptomatic. Day before hospitalization he was febrile and had difficulty speaking. After admission nasopharyngeal reverse transcription polymerase chain reaction came in positive for SARS-CoV-2, while antigen test was negative. Brain computed tomography showed no fresh pathomorphological substrate. Laboratory analyses revealed increased fibrinogen activity, moderately increased C-reactive protein and elevated D-dimer value. Brudzinski sign was positive. Hand twitching was observed. A lumbar puncture was performed and cerebrospinal fluid (CSF) analysis indicated aseptic meningitis. Sample of CSF was sent for polymerase chain reaction testing for herpes simplex virus 1 and 2 (HSV-1, HSV-2), varicella-zoster virus, Borrelia burgdorferi, SARS-CoV-2 and Listeria monocytogenes. HSV-1, HSV-2 and SARS-COV-2 came in negative. The patient was given ceftriaxone and acyclovir. He also received saline infusion, antibiotics, antivirotics as well as antipyretic and antihypertensive therapy. After 16 days the patient's clinical characteristics improved and he was discharged.

Conclusion: Considering how rare such cases are, it is important to think about severe neurological symptoms as possible first manifestation of COVID-19. Early and accurate diagnosis is essential for enabling full recovery and therefore preventing further transimission.

CR40

Free-floating iris cyst in anterior chamber

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Introduction: Iris cysts are not common entities in clinical practice. They can be primary or secondary, associated with trauma, surgery, miotic drugs or tumours. The cysts can get detached from the epithelial surface of the iris and float freely in the anterior chamber. Anterior chamber cysts mostly remain stable but can also grow and cause visual disturbance or secondary glaucoma.

Case report: A 34-year old female noticed a change in her left eye. As she was moving her head up and down, the change was also moving in opposite direction. There was no personal history of ocular diseases, surgery, trauma or systemic diseases. She used contact lenses since she was 13-years old and was often examined by her ophthalmologist. Slit lamp examination revealed a pigmented oval free floating cyst at the 6 o'clock position in anterior chamber of her left eye. No surgical intervention was indicated at that moment. The cyst size decreased and increased over a follow-up period of 12 months. Surgical intervention was indicated when the cyst was big enough to interfere with her everyday life.

Conclusion: Free-floating iris cysts in anterior chamber are rare and generally remain stable. Management of asymptomatic non progressive cysts includes observation. A rapid increase in cyst size and visual disturbance or association with ocular complications should be treated surgically.

CR41

A Rare Case of Severe Guillain-Barre Syndrome without EMNG Abnormalities

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Introduction: Guillain-Barre Syndrome is a rare, acute polyneuritis caused by an autoimmune respons in which the body mistakenly attacks myelin sheets of peripheral nerves. It mostly occurs due to a prior respiratory or digestive infection. We report on a patient with acute quadriparesis and areflexia with GBS like symptomatology, but negative EMNG.

Case report: The patient is a 14 – year - old boy first presented with dysphagia and excessive salivation on August 5th 2020. Two days later, he started experiencing difficulties breathing, rhinorrea, pharyngitis, dehydration and general weakness. Symptoms developed rapidly, so on August 9th, he was admitted to the hospital with severe quadriparesis and areflexia, and has been parenterally treated with antimicrobial drug Ceftriaxone for six days. Clinical features and cerebrospinal fluid analysis, which revealed albuminocytological dissociation, indicated GBS. But, electromyoneurography results came back normal which contradicts the diagnosis. Negative AchR antibodies and MuSK tests excluded Myastenia Gravis. Based on the development of symptoms, GBS was the most probable diagnosis. After the results of the previously ordered antiganglioside antibodies test came back positive, patient has been parenterally treated with immunoglobulins for two days. Therapy resulted in a full recovery.

Conclusion: Although an abnormal EMNG is a strong indication for GBS diagnosis, there have been previous cases showing no abnormalities on the test. Based on the information we found, EMNG abnormalities may be absent in the early stages of GBS. However, in the presented case the condition was too severe. There have been rare cases that progressed to this level without showing abnormalities.

CR42

Hemorrhagic stroke and pulmonary embolism: a case report

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Introduction: Hemorrhagic stroke (HS) is caused by blood vessel rupture and consequent bleeding into the brain. The most important risk factor is hypertension. HS is usually diagnosed and evaluated by CT and CT angiography (CTA). The pulmonary embolism (PE) is life-threating condition and occurs when thrombotic material blocks blood flow in the pulmonary artery or it's branches. PE is usually confirmed by pulmonary CTA and treated pharmacologicaly with anticoagulation and fibrinolysis.

Case report: We present a case of a 64-year-old male patient with a history of hypertension. During admission he was conscious with right-hand weakness and speech disability. His BP was 130/80 mmHg, there were no signs of head trauma. He had bilateral miosis and right hemiplegia. Brain CT showed hemorrhage in the left basal ganglia with intraventricular extension without hypertensive hydrocephalus. Ten days following HS, the patient complained of chest pain and dyspnea, became hemodynamically unstable with hypotension requiring vasopressors and low oxygen saturation despite oxygentherapy (OT). CTA of the pulmonary artery showed massive PE of the pulmonary trunk (PT) and both pulmonary atreries (PA). Fibrinolysis and anticoagulant therapy were contraidicated due to intracerebral hemorrhage. Transfemoral percutaneous mechanical thrombectomy was performed, by inserting dedicated catheter with simultaneous thrombus fragmentation and aspiration. The patient became hemodynamically stable with oxygenation of 98% without OT. Intracerebral bleeding was later treated by endovascular coiling of arteriovenous malformation.

Conclusion: In cases of simultaneous PE and severe bleeding, minimally invasive mechanical thrombectomy can be life saving procedure and should be considered in all situations when PE cannot be treated pharmacologically.

CR43

Hyperthermic Intraperitoneal Chemotherapy (HIPEC) for uterine sarcoma following a COVID19 infection

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Introduction: On March 11th 2020 the World Health organization officially declared COVID-19 a pandemic which triggered a chain of events in healthcare leading to a concentration of resources into the areas of interest potentially affected by the new disease meaning that in most countries' elective surgery, including oncological procedures were cancelled.

Case report: We present the case of a 36-year-old with a tumoral mass located on the topography of the right salpinx with cystic components. The doctors perfomed right salpingectomy and resection of the tumor mass with shaving of the tumor tissue from the surface of the sigmoid colon. In February 2020 she returns to the hospital with abdominal pain and a CT scan revealed inhomogeneous tumor lesions located on the topography of both ovaries along with a sigmoid tumor which were resected, described as a stromal endometrial sarcoma and following the surgery the patient develops uretero-hydronephrosis and ascites. The results of the CT scan performed in our hospital suspected a frozen pelvis due to carcinomatosis and a HIPEC(Hyperthermic intraperitoneal chemotherapy) procedure was scheduled for early April. So the doctors performed a posterior pelvic exenteration with peritonectomy and right hemicolectomy, followed by the reconstruction of the digestive tract and finally a cholecystectomy, an omentectomy with splenectomy and an extended lymphadenectomy.The patient had no postoperative complications 90 days after surgery.

Conclusion: To our knowledge and according to the review of the literature this is the first case report describing a HIPEC(Hyperthermic intraperitoneal chemotherapy) procedure performed in a patient having had a recent COVID 19 infection.

CR44

Infectious endocarditis as a consequence of electrostimulator of the heart implantation: a case report

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Introduction: Infectious endocarditis is an inflammatory disease that affects the heart valves. The basic pathological process is the formation of thrombi and vegetation on the valves. The end result of the disease is shrinkage, calcification and damage to the function of the valve. The infection can also affect the electrodes of the pacemaker.

Case report: A 53-year-old patient with atrial fibrillation and mitral valve insufficiency is presented. 3 months ago, the patient was treated for paroxysmal atrial fibrillation and had a pacemaker implanted. After 30 days, the patient reports to the Clinic for Infectious Diseases due to fever, chest pain, confusion and an increase in the inflammatory parameters (CRP> 250), and is placed in the intensive care unit. S. aureus is isolated by hemoculture and therapy with cloxacillin is included. In the further course, due to ARDS, the patient is attached to a mechanical ventilator, becomes oliguric so the hemodialysis is performed and the diagnosis of multiorgan failure syndrome is established. Due to further growth of inflammatory parameters (CRP> 300), transesophageal ultrasound is performed and a vegetation on the mitral valve is determined. On the tenth day, the electrostimulator is removed as a probable cause of the septic condition.On day 20, the patient is extubated, disoriented, and hemodynamically stable.

Conclusion: The possibility of infective endocarditis should be considered in all patients with fever and chest pain who underwent cardiac surgery in the last 6 months. Special emphasis is placed on patients with comorbidities. Almost every implanted foreign material carries the risk of bacterial colonization, thus becoming a source of bacteremia and consequently endocarditis.

Keywords: sepsis, infective endocarditis, pacemaker implantation

CR45

Interstitial lung disease in systemic sclerosis: a case report

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Introduction: Interstitial lung disease (ILD) is a common clinical feature of systemic sclerosis with a poor prognosis and in addition to pulmonary arterial hypertension is the most common cause of death in scleroderma patients.

Case report: This case describes a 30-year-old male patient with a history of pain in his both hands upon exposition to lower temperatures. The rheumatologist performed the physical examination which showed lividity of digits with tightened and sclerodactyly. Patient had positive Raynaud's syndrome, peripheral palpable pulsation, skin rash, and oral ulcers. Thyroid gland ultrasound showed thyroid of thickened parenchyma, with pronounced echosonographic signs of diffuse disease. In the middle third of LR, a small nodule cytologically analysed and lymphocytic thyroiditis was confirmed. Then, capillaroscopy showed pericapillary edema and dilatated capillaries in all fingers with hemoragy and with no signs of angiogenesisindicating early scleroderma pattern. HRCT chest scan showed bilateral subpleural dominant basal reticulation with traction bronchiectasis. Immunology tests included ENA screening results were positive with highly positive value of topoisomerase antibodies (anti Scl-70) 169 AU/mL and borderline positive antinuclear factor (ANF). Based on diagnostic procedures and clinical signs, ILD in newly diagnosed systemic sclerosis was confirmed and treatment with monthly pulses cyclophosphamide was initiated in addition to levothyroxineas treatment of hypothyreosis.

Conclusion: In this case development of ILD in systemic sclerosis, the patient presented with lung involvement in addition to scleroderma skin changes. It was crucial to perform chest HRCT scan, echocardiography and capillaroscopy to evaluate systemic organ involvement in systemic sclerosis in order to initiate the best treatment strategy and therefore prevent further systemic disease progression.

Keywords: SSC, ILD

CR46

Renovascular hypertension: a case report

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Introduction: Renovascular hypertension is a condition in which high blood pressure is caused by the kidneys' hormonal response to narrowing of the arteries supplying the kidneys. Due to low local blood flow, the kidneys mistakenly increase blood pressure of the entire circulatory system. RVH is one type of secondary hypertension. Its most common causes are atherosclerotic renal artery stenosis and fibromuscular dysplasia.

Case report: We report a case of a 38-year-old woman, who was admitted to the Department of Cardiovascular Diseases in November 2017 due to acute myocarditis, pulmonary edema and high blood pressure. She was subsequently hospitalized several times for hypertensive pulmonary edema. The last hospitalization was in September 2020 due to cardiac decompensation, unregulated arterial hypertension and deterioration of renal function. We suspected renovascular hypertension and CT angiography of renal arteries was performed. CT showed subocclusion of the right renal artery and subocclusion of the main left renal artery. The patient has physiological variation presented as two left renal arteries. Occlusion of the left iliac internal and external artery was also detected. Echocardiography showed an estimated 40-45% ejection fraction, left atrial dilatation, mild mitral valve regurgitation and there were no signs of aortic coarctation. She was recommended for stenting left internal iliac and left main renal artery.

Conclusion: RVH is an uncommon but potentially remediable cause of hypertension. We should suspect RVH in patients with hypertension that is difficult to control. CT angiography is indicated for diagnosis. Appropriate treatment continues to evolve, but control of hypertension is imperative.

Keywords: Renovascular hypertension, CT angiography, pulmonary edema

CR47

Is lung transplantation a viable treatment option for rare diseases? A case report of a patient with pulmonary vein stenosis.

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Introduction: Pulmonary vein stenosis (PVS) is a very rare vascular malformation that is associated with significant mortality due to the progression of pulmonary hypertension and coexisting cardiac conditions. Primary PVS's treatment experience in adult patients is limited to balloon angioplasty and stenting.

Case report: A patient with pulmonary hypertension in the course of primary pulmonary vein stenosis of multiple vessels, pulmonary artery stenosis, and hypoplasia of the pulmonary veins and arteries has received balloon angioplasty of upper and lower left pulmonary veins. Further procedures were conducted but failed due to vessel damage and blood extravasation to the lung tissue. Because of the fragility of the vessels, further attempts were abandoned. Subsequently, the patient developed end-stage respiratory failure.The patient underwent double lung transplantation (LTx) as the only fully curative therapy for this entity. LTx was performed with the use of veno-arterial extracorporeal membrane oxygenation (ECMO). 6-minute walk test results improved from 73,7m at the qualification process to 480,7 m 10 months after the procedure. Currently, the patient is in good general condition with full respiratory efficiency.

Conclusion: In infrequent diseases such as PVS, there are no medical procedures that guarantee a full recovery. However, bridging methods play an important role in the treatment plan. Although procedures like angioplasty were a crucial part of therapy, only aggressive intervention such as LTx has resulted in good long-term clinical results in the patient. To our knowledge, this is the first case of congenital PVS in an adult treated with lung transplantation.

CR48

Rhabdomyolysis as a first symptom of SARS-CoV-2 infection

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Introduction: Rhabdomyolysis is the breakdown of muscle tissue that leads to the release of muscle fiber contents (myoglobin, creatine kinase (CK), aldolase, lactate dehydrogenase) into the blood. It could be caused with alcohol abuse and drugs, neuroleptic malignant syndrome, endocrine diseases and viral (Influenza A and B, HIV, Epstein-Barr, Coxsackie, Herpes simplex and Herpes zoster) or bacterial myositis.

Case report: In November 2020, a 64-year old male patient came to the emergency department because of leg weakness. His symptoms started few days ago when he couldn't stand up after a long drive. Since then, he has been walking with a stick and felt tension and pain in his muscles. Because of his obesity, he has been having troubles with breathing and few days prior coming to ambulance his breathing became even harder. In neurological examination he had mild flaccid paraparesis with diminished patelar reflex on both legs. Patient walked antalgic with a stick and has been dyspneic while laying down. Other examination were normal. Laboratory results showed increased AST (596; interval: 11-38), ALT (182; interval 12-48), CRP (54,6; interval <5.00) with microcytic anemia and slightely increased urea and creatinin level. Additional laboratory results showed more than 100-fold increased CK level (29290; interval 25-177), with increased CK-MB (180; interval <24) and troponin I (0,130; interval 0,000-0,0056) level. Nasopharyngeal swab was taken and patient was tested positive for SARS-CoV-2.

Conclusion: It is important in patients with acute rhabdomyolysis to think about acute SARS-Cov-2 infection as one of the possible reason.

Key words: SARS-CoV-2, rhabdomyolysis, paraparesis, creatine kinase (CK)

CR49

Swollen and painful foot as the first sign of acromegaly

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Introduction: Acromegaly occurs due to high secretion of growth hormone. The most common cause is an anterior pituitary adenoma. Some of the most common symptoms are headache/vision loss, increased cartilage and soft tissue growth (enlarged mandible, swollen and/or enlarged extremities) and sleep apnea.

Case report: 67 y.o. man with known arterial hypertension and prostatectomy due to adenocarcinoma was examined for pain in his right foot after physical exertion, with swelling of both feet. During examination, accentuated facial bones, an enlarged nose, ears, hands and feet were noticed. Basic laboratory findings were unremarkable. An endocrinologic examination was recommended. Additional laboratory findings showed elevated IGF-1 (118 nmol/L) and GH in OGTT (34,7 μg/L). MRI of sellar region showed pituitary macroadenoma (21 mm in diameter). Glucose intolerance was diagnosed, while other pituitary and gland hormones and ACTH test were normal. The patient also complained that his old shoes were tight, he snored heavily, woke up at night and was drowsy during the day, sweated and had morning headaches. Trans-sphenoid ablation of pituitary macroadenoma was performed and pathohistological findings revealed eosinophilic pituitary adenoma with ability to synthesize GH and TSH. Postoperatively, laboratory findings and sellar MRI were normal, and further follow-up was recommended.

Conclusion: The clinical features of acromegaly are attributed to high serum concentrations of GH and IGH-1. Somatotropic adenomas can also cause symptoms due to local expansion. Surgical treatment of pituitary adenoma and strict control of the biochemical balance of pituitary hormones is required to achieve a complete therapeutic effect for acromegaly.

Keywords: Acromegaly, Headache, Growth hormone, Macrognathia, Pituitary macroadenoma

CR50

Massive pulmonary embolism with hospital acquired urinal infection

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Introduction: Massive pulmonary embolism is defined as occlusion of major pulmonary artery obstruction by an embolus that affects more than 50% of the cross-sectional area of the lung, causing acute and severe cardiopulmonary failure from right ventricular overload. Symptoms include dispneoa, tachypnea, pleuritic chest pain, hemoptisis, systemic hypotension and peripheral oedema. Risk factors include pregnancy, malignancy, inherited trombophilia and hypertension. Therapy includes oxygen, morphine, trombolitic therapy followed by long term oral anticoagulation therapy.

Case report: We present 81-year-old female patient with chronic chest pain and dispneoa lasting for 7 days, with acute exacerbation of dispnoea following hospitalisation. On inital examination crepitations were heared on basal area of the left lung and lower extremitates showed pitting edema. Lab results showed elevated D-dimer (>4610ug/l) levels. Color Dopler of left leg showed thrombosis in peroneal vein. MSCT showed inadequate intraluminal filling of the main right pulmonary artery, obstruction of lobar arthery for the uper left pulmonary lobe, and segmental branches for lingula which indicates that the patient has a massive pulmonary embolsim. The patient was treated with LMWH followed by DOACs. During hospitalisation patient has acquired a urinal tract infection wich was comfirmed to be E.coli. The infection was successfuly treated with co-amoxiclav.

Conclusion: Massive pulmonary embolism is a life threatening emergancy often leading to cardiopulmonal arrest. Because of that it is essential to diagnose it as fast as possible and treat it with mentioned therapy;LMWH followed by oral anticoagulants.

Keywords: Massive pulmonary embolism, uroinfection, phlebothrombosis

CR51

Membranous glomerulonephritis and hepatitis B infection

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Introduction: Membranous glomerulonephritis (MN) is rare disease caused by deposition of immune complexes on the glomerular basement membrane (GBM) with GBM thickening. It is most common cause nephrotic syndrome in adults. MN can be idiopathic (iMN) or secondary to drugs, infections, autoimmune disorders and cancer.

Case report: A 62-year-old woman with arterial hypertension and varicose veins suddenly developed prominent peripheral oedema of legs. It took 2 visits to emergency department and another 2 clinical assessment by specialists till dipstick urinary analysis was done which revealed proteins. Quantitative analysis of 24 h urine showed heavy proteinuria (16 g/dU) with hypoalbuminemia and hyperlipidaemia and normal kidney function. Kidney specimen on light microscopy was unremarkable, but immunofluorescence showed granular deposition of IgG on GBM and on electron microscopy only subepithelial deposits without mesangial deposits were seen which is in line with iMN. Immunological test showed high levels of anti-phospholipase A2 receptors (anti-PLA2R). Serology for hepatitis B revealed chronical infection with HBV with moderate replication of HBV DNA titre. Although, antiPLA2R are highly specific for primary iMN, there have been reports that active HBV infection trigers antiPLA2R autoimmunity. Antiproteinuric therapy with ACE inhibitor trandolapril, vitamin D, statin, warfarin, as well as antiviral therapy with entecavir was applied which resulted in partial remission (50% reduction of proteinuria; 9 g/dU) of MN.

Conclusion: This case report emphasizes importance of simple diagnostic test like urine analysis, and also that when dealing with glomerular disease one should always have in mind secondary cases of MN, because there is significant difference in therapy.

CR52

Metabolic crisis and hyperammonemia after high-protein intake – ornithine transcarbamylase deficiency

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Introduction: Ornithine transcarbamylase deficiency (OTC deficiency) is an X-linked recessive disorder of urea biosynthesis characterized by recurrent, hyperammonemic encephalopathy. The aim of this case report is to show the importance of early recognition of hyperammonemia in order to prevent life-threatening complications.

Case report: We present a case of 20 months old boy, born in the first pregnancy with a birth weight of 2900g and Apgar score 10. His mother was the ninth and only living child in the family. 24 hours after having a high-protein meal and vomiting, he came to the hospital irritable and progressively lethargic. Ammonia levels were 183 µmol/l, alanine aminotransferase (ALT) and aspartate aminotransferase (AST) 145 U/L, and lactate 4,1 µmol/l. After giving a 10% glucose, Medazol and lactulose, ammonia levels dropped with regular clinical findings. The urine sample revealed a high level of orotic acid, glutamine, alanine, and citrulline. DNA genetic testing confirmed a hemizygous variant in the OTC gene. The boy was released home with a strictly controlled low-protein diet (10g protein/day), 10% sodium benzoate, and 21% arginine hydrochloride in case of metabolic crisis.

Conclusion: OTC deficiency is a rare genetic disorder characterized by complete or partial lack of the enzyme ornithine transcarbamylase resulting in excessive accumulation of ammonia that leads to neurological abnormalities. Any case of acute altered mental status with vomiting should prompt consideration of hyperammonemia as a potential cause.

Keywords: Ornithine transcarbamylase deficiency, hyperammonemia, urea cycle

CR53

Metformin induced leukocytoclastic vasculitis and IgA nephropathy

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Introduction: Leukocytoclastic vasculitis (LCV) and IgA nephropathy are two histopathological diagnoses characterized by inflammation of small blood vessels triggered by a variety of different factors, including drugs. LCV presents cutaneously whereas IgA nephropathy is a form of glomerulonephritis that occurs when the IgA deposits accumulate in the kidneys.

Case report: A 58-year-old male patient was admitted to the emergency room with erythema on his chest, abdomen, upper and lower extremities and unilateral shin oedema. The laboratory tests showed proteinuria and hematuria. He started using metformin a month prior to onset of these symptoms. Metformin was replaced by glimepiride which led to a decrease in erythematous skin changes. ANA and ANCA were negative while the direct immunofluorescence in the skin showed IgA and C3 deposits in the blood vessel walls which confirmed LCV. Pathohistological diagnosis showed IgA nephropathy presented as focal segmental proliferative sclerosing glomerulonephritis. Immunosuppressive therapy, in the form of cyclophosphamide and methylprenisolone, was administered to which the patient responded very well.

Conclusion: Metformin is an oral anti-diabetic agent commonly used in the treatment of type 2 diabetes patients in order to decrease insulin resistance. It is considered to be safe with minimal side effects and does not cause kidney damage. As presented in this case, the damage occurred due to the immune system's response to the drug, and not by the direct effect of the drug. LCV and IgA nephropathy responded well to immunosuppressive therapy and the patient is now, six years later, in remission.

Keywords: metformin, leukocytoclastic vasculitis, IgA nephropathy

CR54

Multiple abscesses of the brain caused by Fusobacterium nucleatum

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Introduction: Fusobacterium nucleatum (FN) is a bacterium found in human oral cavity. Usually, it plays a role in developing diseases of the periodontium, but is also associated with colon cancer. Rarely, it leads to the formation of cerebral abscesses.

Case report: Case describes a 56-year-old male who visited a doctor because of right hemiparesis and dysarthria in right arm. X-ray and CT have shown shade on the lung and multiple lesions on the brain which was first suspected to be secondaryism of lung cancer, but later realized they are abscesses. After pulmological examination lung cancer is excluded. Because of heavy general condition, epileptic seizures, and respiratory instability patient was transported to Intensive care unit (ICU). After the progression of cerebral oedema emergency neurosurgical procedure was indicated, and abscesses were removed with surrounding brain tissue. Initial therapy was cefepime, metronidazole, amphotericin B, and cloxacillin. Microbiological testing of abscess fluid discovered a presence of FN and recommended therapy were meropenem and metronidazole. During the following week patient's general condition has improved, and the shade on his right lung has regrated. Two weeks later, the patient was released from the ICU conscious with significantly damaged general condition. Neurological deficits were obvious, like right-sided hemiparesis, urinary and feces incontinence, lowered right oral angle, and many were impossible to test.

Conclusion: The formation of brain abscesses caused by FN is a rare condition that can be deadly. Relatively fast reaction and diagnosis by the medical team provided an opportunity for targeted treatment that eventually saved the patient's life.

Keywords: Fusobacterium nucleatum, brain, cerebrum, abscess, neurological deficits

CR55

Obstructive sleep apnea in patient with Prader-Willi syndrome

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Introduction: Prader-Willi syndrome (PWS) is a genetic disorder caused by the loss of paternally expressed genes on chromosome 15q11.2-q13. It is characterized by hypotonia followed by compulsive hyperphagia resulting in morbid obesity. Intellectual disabilities and behavioral problems, sleep-disordered breathing, hypogonadotropic hypogonadism, short stature, scoliosis, and strabismus are also associated symptoms. High prevalence of obstructive sleep apnea (OSA) (a disorder characterized by recurrent episodes of complete or partial obstruction of the upper airway leading to reduced or absent breathing during sleep) is reported among children with PWS due to a combination of characteristic craniofacial features, obesity and hypothalamic dysfunction. Polysomnography (PSG) is the standard diagnostic test for the diagnosis of OSA.

Case report: We present a 20-year-old female patient with PWS. Her medical history includes diabetes mellitus type 1, hypertension, and secondary amenorrhea. At the age of 11, there was a sudden increase in her body weight (body mass index (BMI) = 43) followed by snoring and pauses in breathing during sleep. Polysomnography showed increased AHI (10.2/h), which led to a diagnosis of OSA. At the age of 14, BMI 54.53, second PSG showed more increased AHI (52.4/h) and then is decided to initiate non-invasive ventilation (NIV). Since then, the patient uses NIV every night. Once a year, a PSG is performed with AHI varied from 21.04/h to 0/h.

Conclusion: OSA is a relatively common, serious complication of PWS that needs to be diagnosed and treated on time. This case demonstrates the positive influence of NIV but also the negative influence of the increase of BMI on AHI.

Keywords: Prader-Willi syndrome, obesity, apnea, non-invasive ventilation

CR56

IgM multiple myeloma as a rare hematological entity

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Introduction: IgM multiple myeloma (MM) is an extremely rare hematological entity that accounts for less than 0.5% of MM cases. Given the rarity of this disorder, it presents a challenge in differentiate it from other more common hematologic disorders such as Waldenstrom's macroglobulinemia (WM). This is the first IgM MM type kappa diagnosed at the CHC Osijek.

Case report: The patient is a 58-year-old woman who has been complaining of pain in the lumbosacral spine for 8 years. In 2018, the processing started due to the mentioned problems. IgM-monoclonal hypergammaglobulinemia (IgM 57-g/L) was determined. Radiological examination revealed minor osteolysis in the left femoral neck area and intertrochanterically, compression fractures of the Th1, Th6, L1-vertebra. Due to intense pain in the thoracolumbar spine in April of 2020, she came back for further processing. Laboratory findings now showed normocytic anemia (Hemoglobin-93-g/L) with normal renal function and calcium levels. Previously determined bone lesion was confirmed by radiological procedures. The diagnosis of MM IgM type kappa was determined by processing (IgM-76.8-g/L). The treatment began according to the VCD. After six cycles, remission of the disease was achieved (IgM-2.24-g/L). The planned continuation of treatment is with autologous bone marrow transplantation.

Conclusion: Diagnosis of IgM-MM is a demanding task given the rarity of the disease and the small number of reported cases in the literature. Lytic bone lesions developed by this patient are considered specific for MM and are not usually a feature of WM. For this reason, MM should be suspected in patients with LS spine pain older than 40 years, especially if compression vertebral fractures and anemia are present.

Keywords: multiple myeloma, IgM MM type kappa

CR57

Multidisciplinary approach to Stanford type B aortic dissection

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Introduction: Aortic dissection is defined as disruption of the medial layer provoked by intramural bleeding, resulting in separation of the aortic wall layers and subsequent formation of a true lumen and a false lumen with or without communication. Stanford type B aortic dissections (AD) involve descending aorta and are further classified by time of onset and presence of complications.

Case report: 72-year-old patient was hospitalized for sudden and intense lumbar pain that spread to the abdomen. Patient also reported sweating. Since values of D-dimers were elevated, aortography was performed, and aortic dissection was located at 55 mm below the renal arteries extending along the left iliac artery. A penetrating ulcer in the initial part of the descending aorta is also a possibility. Patient was presented to the Cardiology and Radiology Council and continued treatment with medications was indicated. Afterwards, patient has had well-regulated pressure along with complete regression of abdominal and back pain in good general condition.

Conclusion: This case study aims to highlight the importance of a multidisciplinary approach to Stanford type B aortic dissection. Patients with uncomplicated Type B AD receive medical therapy to control pain, heart rate, and blood pressure, with close surveillance to identify signs of disease progression or lack of perfusion. Additional factors, such as the false lumen diameter, the location of the primary entry site, and a retrograde component of the dissection into the aortic arch, are considered to significantly influence the patient's prognosis.

Keywords: aortic dissection, multidisciplinary approach, Stanford type B

CR58

Newly discovered atrial septal defect at the time of the COVID-19 pandemic

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Introduction: Decompensated heart failure is defined as a syndrome in which a structural or functional change in the heart leads to its inability to eject and accommodate blood within physiological pressure levels. Congenital heart defects, as a structural cause, can lead to chronic heart failure.

Case report: Female patient, 81 years of age, was treated in Department of Cardiology due to decompensation of chronic cardiomiopathy. Previous diagnoses in medical history include arterial hypertension and permanent atrial-fibrillation. The patient had chest pain since the day before, without any propagation. Auscultation of the heart detected systolic murmur precordially. Echocardiography was performed and revealed mildly reduced left ventricular systolic function (EF 47%), right ventricle dilated and remodeled with hypertrophic wall and significantly dilated right atrium (Area 85,79cm2). A bubble test was performed and a positive test was obtained - the flow of the bubbles from the right to the left heart cavities, which indirectly indicates a R-L shunt. With transthoracic echocardiography the localization of the shunt can not be clearly morphologically detected, most probably it was ASD. Therefore, transesophageal echocardiography was recommended. In the meantime, a positive test for the SARS CoV-2 arrived, and the patient was transferred to the Infectious Diseases Clinic. During her stay, she was occasionally febrile, general condition was severe. Despite applied treatment, the patient died 8 days after admission to the clinic.

Conclusion: ASD allows communication between the systemic and pulmonary circulation, thus causing chronic right-sided cavities overload. It contributes to the development of heart failure and therefore will impact survival and morbidity.

Keywords: Heart failure, ASD, SARS CoV-2

CR59

First Mechanical Thrombectomy in University Hospital Center Osijek: a case report

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Introduction: Stroke is one of the leading causes of disability in Croatia and with 5180 deaths it is a second leading cause of death. Approximately 12000-13000 people in Croatia have a stroke every year. There are two main types of stroke, ischemic and hemorrhagic, and around 87% are caused by a blockage in an artery. Thrombolysis was the gold standard of treatment for ischemic stroke for decades, but with the emergence of mechanical thrombectomy, we are entering a new phase.

Case report: We present a case of a 58-year-old female with acute onset stroke who underwent first successful mechanical clot removal by interventional radiology in University Hospital Center Osijek. She was brought to emergency department of nearby General Hospital due to acute (2 hours prior) onset of left-side weakness and the initial score of National Institutes of Health Stroke Scale (NIHSS) was 9. Computed tomography (CT) angiography after symptom onset showed an occlusion of the right middle cerebral artery in the M2 segment. She was transferred to University Hospital Center Osijek where urgent mechanical thrombectomy was performed, without any complications. NIHSS score after the procedure was 6. After patient recovered from procedure, she was transferred back to General Hospital with notable neurological improvements for further treatment.

Conclusion: Mechanical thrombectomy improves treatment outcomes of ischemic stroke. This case presents modern clinical procedures from diagnosis to mechanical thrombectomy with great result.

Keywords: stroke, mechanical thrombectomy, interventional radiology, computed tomography

CR60

Isaacs' Syndrome - case report

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Introduction: Isaacs' Syndrome is a rare immune-mediated peripheral motor neuron disorder characterised with painfull muscle stiffnes (neuromyotonia), insomnia, parestesiae, weight loss, mood changings and slowness of the movement.

Case report: A 59-year-old male patient came to Department of Neurology due to symptoms that last 2 years. He complained on constant pain and stiffness in the neck, thoracic part of vertebra and collar region. His head tend to fall down due to muscle weakness. He became slow and complain on tremor in the right hand. Patient also reported weight loss (20 kg), numbness in both legs and insomnia. In his past medical history he only had high blood pressure and suspicion on borreliosis. In neurological examination rhythmic muscle contraction in the right hand and right side of the neck were noticed and neck muscle weakness. Otherwise, neurological exam was normal. Extensive workup was performed with pathological findings: electromyography (multiple repeating discharges), MRI brain (vascular lesion), MRI cervical spine (degeneration), increased CSF protein level, increased IgG Borrelia burgdorferi, positive antithyroid antibodies, increased Ca 72-4 tumour marker, positive CASPR2 antibodies (CSF). Normal findings were: Hu, Yo, Ri antibodies (CSF), NMDAR, AMPAR, GABA, LG1, GlyR, CRMP5, Ma2 antibiodies (CSF), GAD65 antibiodies (serum), neurography, CT chest and abdomen, gastroscopy, colonoscopy, PET CT of whole body. Diagnose of Isaac`s syndrome was made and he start treatment with anticonvulsants, corticosteroids and intravenous immunoglobulins.

Conclusion: Isaacs' syndrome is rare condition with underlying possible malignancies and autoimmune conditions and therefore should be in diagnostic workup sought for this diseases.

Keywords: autoimmune disorders, anti-CASPR2 antibody, Isaacs' Syndrome, muscle stiffness, neuromyotonia

CR61

The Role of Anticoagulation Therapy in patient who is hospitalised with COVID-19

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Introduction: The coronavirus infection (COVID-19) is caused by the new SARS-CoV-2 and is characterized from the mild to moderate respiratory illness or can lead to severe manifestations such as coagulopathy, acute lung injury that can progress to respiratory or even multiorgan failure. A pulmonary thrombosis has been reported in up to 50% of hospitalised patients.

Case report: We present a COVID-positive, 87-year-old man who was hospitalised for fever (38,6 °) for a week before, shortness of breath and difficult expectoration. In physical examination, nothing significant was found except stoma (after rectal carcinoma operation in 2012) in the left hemiabdomen. He was eupneic, SpO_2 96%, normotensive (140/80mmHg) with normal heart rate (75/min). The patient has many other comorbidities such as arterial hypertension, atrial fibrillation and undulation, benign prostatic hyperplasia. CXR have shown bilateral distribution of alternations in the middle fields of lungs, such as inhomogeneous infiltrates and decreased airiness. A hospital treatment is justified due to his symptoms, radiology findings, his age and comorbidities. Therapeutic management included dexamethasone, supplemental oxygen, intravenous ceftriaxone and low-molecular-weight heparin along with his other chronic therapy (warfarin, metildigoxin, ramipril, tamsulosin). Within a week, despite the high risk of developing severe complications, the patient became respiratory sufficient, afebrile, hemodynamically stable and discharged home with instructions for a further therapy.

Conclusion: Pulmonary microvascular thrombosis may play a role in progressive lung failure which is in this case prevented with LMWH recommended by guidelines. It is also a question of whether warfarin administration is protective. Further research of COVID-coagulopathy is needed.

CR62

Pelvic exenteration in locally advanced prostatic cancer

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Introduction: Prostatic cancer is the 2nd most frequent malignancy in male persons. Early diagnosis allows a minimally invasive treatment in most of the patients by DaVinci prostatectomy. St Constantin Hospital of Brașov has the biggest number of robotic prostatectomies in Romania. The locally advanced cases with rectal and bladder involvement are generally considered inoperable and sent to palliative radio chemo hormonotherapy. But some of them have septic complications due to the cancer infection and are recused by the oncologists.

Case report: We present the case of a 62-year-old male with excellent biological status with a locally advanced prostatic cancer with low rectum invasion, subocclusive and hemorrhagic, as well as the bladder invasion with bilateral ureteronephrosis. He underwent 3 months ago a palliative procedure: Bricker urinary derivation and lateral sigmoid colostomy with tumor left in place considered inoperable, but also recused by the oncologists due to the recurrent infections. The patient was admitted to our Surgical dept and underwent a total pelvic infralevator exenteration (bloc bladder, prostate gland, rectum, low sigmoid colon, anus and perineal resection). The pelvic defect was filled with Vicryl mesh and omental "J" flap. The Bricker reservoir was left untouched as well as the colostoma. The sigmoid colon was cut with 80 mm Gia below the stoma. The operative time was 120 mn. The postoperative course was uneventful with discharge at 6th day

Conclusion: Although a difficult surgery it has in our hands a low morbidity and it may represent a solution for selected cases without distant metastasis.

CR63

Virtual follow-up of a patient with type 1 diabetes during quarantine due to COVID-19

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Introduction: "Flash glucose monitoring" system that measures glucose in intracellular fluid is an easy way to self-monitor to get a complete picture of glycemia. Connecting to the LibreView platform provides a "cloud-based" diabetes monitoring tool that allows physicians and patients to analyze data through glucose movement reports and to optimize therapy.

Case report: Hereby we report a case of a 29-year-old patient who was diagnosed with type 1 diabetes at the age of 12. The patient receives long-acting insulin detemir, 12 U at 10 a.m. and 10 p.m. and short acting pre-meal insulin aspart, depending on glycemic values and carbohydrate unites in the meal. Considering she is planning a pregnancy, the long-acting insulin degludec was replaced with detemir one month ago. Since then, she had oscillating glycemic values. The patient was placed in quarantine for 21 days due to positive PCR test for SARS-CoV-2. The LibreView glycemic monitoring platform provided regular monitoring of the patient and insight into the patient's glycemic profile during self-isolation. The average glycemic value for the previous 14 days was 9.0 mmol/L and the estimated glycated hemoglobin was 7.2%. Only 66% of the time, the glycemia was within the target values of glycemia. Additional education of the patient was conducted through telephone conversation. It is planned to administer insulin preconception via insulin pump and until then monitor glycemic levels via virtual clinic.

Conclusion: The application of new technologies for continuous glucose monitoring and telemedicine monitoring has simplified the treatment of patients with diabetes during COVID-19 pandemic.

Keywords: glucose monitoring, telemedicine, type 1 diabetes mellitus, quarantine, COVID-19

CR64

Peroneal Neuropathy. Fibular Tunnel Syndrome and Superficial Peroneal Nerve Entrapment

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Introduction: Peroneal neuropathy is the most frequent mononeuropathy in the lower limb. In some cases the peroneal nerve is damaged in several locations. Because of that, neuropathy is often misdiagnosed and left untreated.

Case report: 78-year-old female presented with pain of the right leg. Pain irradiates anterolateral side from hip to the ankle. Every static position worsens the pain. Symptoms began after knee arthroplasty 4 years ago. Patient was treated conservatively with nerve blockades and opioids. Eventually she was referred to a plastic surgeon. The neurological examination revealed hypoesthesia in the common peroneal nerve sensation area of the right leg. Palpation of the nerve at the fibular tunnel was painful. Diagnosis of fibular nerve tunnel syndrome was established. After the decompression of common peroneal nerve, pain of the upper leg and knee disappeared, but remained in the lower third of the calf. 3 months after the decompression patient was assessed again. Hypoesthesia remained only in the superficial peroneal nerve sensation area. Palpation of the nerve, about 8-9 cm above the lateral ankle, was painful. Diagnosis of superficial peroneal nerve compression was established and decompression of the nerve was performed. After the operation, pain and dysesthesias disappeared completely.

Conclusion: Even though it is not common, peroneal neuropathy can present with both, fibular tunnel syndrome and superficial peroneal nerve entrapment. Clinical evaluation and thorough taking of patient's anamnesis are the main factors of diagnosing peroneal neuropathy. Nerve decompression is an effective treatment of both fibular tunnel syndrome and superficial peroneal nerve entrapment.

CR65

Placental mesenchymal dysplasia

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Introduction: Placental mesenchymal dysplasia (PMD) is an uncommon placental vascular anomaly, primarily associated with intrauterine growth restriction and intrauterine fetal demise. It is also frequently associated with Beckwith-Wiedemann syndrome and some chromosomal abnormalities, such as trisomy 13 and Klinefelter syndrome.

Case report: We present the case of a 31-year-old pluriparous woman who was admitted to the clinic at 41 weeks of gestation in labor with meconium amniotic fluid. Her pregnancy was well controlled without abnormalities. Labor was stimulated with oxytocin infusion. The woman gave birth to a healthy girl that weighed 4340 gr and had an Apgar score 10/10. Postpartum course went uneventfully. Placental tissue was sent for pathological examination. Macroscopic examination showed dilated, thrombosed blood vessels and grape-like villi resembling partial molar pregnancy. Towards the edges of placenta, two 10 cm areas of chronic infarctions were noticed. Histopathological examination revealed enlarged villi with hydropic stroma, thin trophoblastic layer, as well as thrombosed, thick-walled blood vessels.

Conclusion: Although placental mesenchymal dysplasia is associated with diverse perinatal outcomes, in this case PMD has not resulted in perinatal pathology. However, it is questionable would prolong pregnancy have different outcome, especially when multiple infarctions of placenta are associated with mesenchymal dysplasia. Cases like these show necessity of close cooperation between pathologist and obstetrician.

Keywords: placental mesenchymal dysplasia, molar pregnancy, intrauterine growth restriction

CR66

Post-COVID-19 aseptic meningoencephalitis: a case report

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Introduction: Aseptic meningoencephalitis is characterized by non-purulent inflammation of the meninges and brain parenchyma. The disease presents with fever, headache, vomiting, meningeal signs and disturbances of consciousness with neurological symptoms. We report the case of a patient with a postinfectious aseptic meningoencephalitis.

Case report: A 86-year-old male patient was hospitalized 2 weeks after a positive nasopharyngeal swab for SARS-CoV-2 virus without clinically manifest disease (pre-symptomatic carrier). His past medical history included arterial hypertension, angina pectoris and cardiomyopathy. A few hours before admission the patient became subfebrile with an altered state of consciousness. Physical examination revealed neck stiffness, positive meningeal signs, global aphasia, and somnolence. At admission, WBC count was 6.6 $x10^9$/L with neutrophilia, elevated transaminases, IL-6, CRP, and ferritin. CT of the brain and Chest X-ray showed no abnormalities. Cerebrospinal fluid (CSF) analysis showed a pleocytosis with 23 x 10^6 cells and elevated protein level. CSF culture was sterile. PCR testing of CSF for SARS-CoV-2, HSV 1, HSV 2, VZV, *Borrelia burgdorferi*, *Listeria monocytogenes*, *Streptococcus pneumoniae* and *Staphylococcus aureus* was negative. The patient was treated with acyclovir, ampicillin, and ceftriaxone parenterally with supportive therapy until the microbiology results. Supportive and corticosteroid treatment were continued. After 2 weeks, the patient was discharged from the hospital without neurological deficits.

Conclusion: The underlying pathophysiological mechanisms, by which SARS-CoV-2 can cause neurological damage, have not yet been fully investigated, but it is possible that its effect on immunological system has its role. Similar cases can contribute to a better understanding of the SARS-CoV-2 neurological affinities.

Keywords: Meningoencephalitis, COVID-19, SARS-CoV-2

CR67

Pulmonary embolism due to phlebothrombosis in a patient recently treated for pneumonia

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Introduction: Pulmonary embolism is defined as an occlusion in one of the pulmonary arteries. The most common cause is blood clots that originate in the deep veins of the lower extremities. The incidence of PE is estimated to be approximately 60 per 100,000. Risk factors are malignancy, surgery, immobility, pregnancy and previous thromboembolism. Signs and symptoms include acute dyspnea, tachypnoea, pleuritic chest pain and hemoptysis. It is treated with oxygen, analgetics and anticoagulation therapy.

Case report: 79-year-old male patient, previously diagnosed with hypertension and atrial fibrillation, is presented with dyspnoea on exertion lasting for 30 days with sudden progradation of symptoms combined with hemoptysis, pleuritic chest pain and dyspnoea in last 3 days. One month prior to hospitalization patient was treated for pneumonia which was confirmed by microbial findings Klebsiella pneumoniae which explains his mild dyspnoic symptoms. On reception patient was presented with tachycardia (111 bpm), tachypnoea (34/min) and blood samples showed elevated D-dimer (4292 ug/l) and CRP (226 mg/l) which suggested pulmonary embolism. Echocardiography showed right heart dilatation and color doppler of legs showed bilateral DVT as a source of embolus. The patient was treated with LMWH, oxygen, combined antibiotic treatment (pipearicillin/tazobactam and azitromycin) and bisoprolol for his previously known atrial fibrillation. Release treatment included dabigatran, co-amoxiclav, bisoprolol and perindopril/indapamide.

Conclusion: This case emphasizes how symptoms of inadequate treated pneumonia can exacerbate due to new-onset disease e.g. pulmonary embolism. PE is an emergency condition which requires fast diagnosis and treatment with anticoagulation therapy.

CR68

Regulation of glycemia in a patient with type 2 diabetes and COVID-19

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Introduction: The prevalence of diabetes (9%), its association with other comorbidities and the risk of COVID-19, as well as clinically unfavorable outcomes, emphasize the importance of treating patients with diabetes at the time of the pandemic.

Case report: 71-year-old patient with type 2 diabetes, arterial hypertension, and adiposity was examined due to acute febrility. In laboratory findings, there were increased inflammatory parameters (CRP 173.5 mg/L, Lkc 13.2 x 109/L), damaged renal function, hyperglycaemia and left-sided pneumonia on RTG. PCR test of SARS-CoV-2 was positive and the patient was hospitalized at the Department of infectology where he went through antibiotic, antipyretic and anticoagulant therapy. Before hospitalization, glycaemia was regulated with a DPP-4 inhibitor (sitagliptin), metformin and sulfonylurea (gliclazide). During hospitalization, from therapy was excluded metformin and gliclazide, treatment was continued with sitagliptin. The concentration of glucose remained elevated (12.8-22.3 mmol/L). The patient was treated with intense insulin therapy: long-acting insulin glargine U300 IU 6 U at 10 pm (target concentration of glucose was 6 mmol/L, a gradual increase of dosage was recommended), short-acting insulin aspart 6-8 U along with three main meals and continued sitagliptin therapy with decreased dosage (25 mg) because of damaged renal function. The patient and family were educated about insulin therapy.

Conclusion: Well-controlled glycaemia(<10 mmol/L) is associated with improved outcomes in patients with diabetes and COVID-19, therefore it is important to choose medications associated with better clinical outcomes and decreased mortality (DPP-4 inhibitors and insulin therapy). Vaccination is also highly recommended.

Keywords: diabetes mellitus type 2, hyperglycaemia, COVID-19, sitagliptin, insulin

CR69

Distal arthrogryposis: a case report

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Introduction: Distal arthrogryposis is a rare disorder characterized by non-progressive, multiple joint contractures, most commonly on the distal extremities. It has been identified as an autosomal dominant disorder associated with increased connective tissue formation around the joints leading to impaired muscle movement causing deformities.

Case report: We present a male newborn, gestational age 36 weeks. After birth vital, pink, and later becomes dyspneic. Due to visible anomalies and dyspnea, he was transferred to the Department of Neonatology and Neonatal Intensive Care, where he underwent oxygen therapy for three days and was placed in an incubator. This is the mother's 5th pregnancy, obtained through IVF. Pregnancy was preceded by 3 caesarean sections and one artificial abortion. Mother (34) suffers from hypothyroidism, father (27) is healthy. Father's maternal cousin has bilateral talipes equinovarus. Postnatal ultrasound of the brain and abdomen showed no abnormalities. There are no problems of cardiac etiology. Both arms symmetrical, terminally limited left elbow flexion with ulnar deviation of both hands with pseudocamptodactyly. Pronounced deformities of both legs by type of rigid equinovarus. Hip abduction partially limited. Left knee larger than the right, limited extensions. Both feet in rigid equinovarus. Neurologically present mild hypotonia. Due to the pronounced elements of the malformation syndrome, which is dominated by bone and joint deformities, distal type 1 arthrogryposis is suspected.

Conclusion: The diagnosis of distal arthrogryposis is made on the basis of clinical features, neurological examination, and genetic testing. Patients usually need lifelong surgical and non-surgical therapies to improve joint function.

Keywords: arthrogryposis, congenital contracture, joint contracture

CR70

Giant abdominal-pelvic tumor, metastasis of colonic adenocarcinoma

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Introduction: Cases of giant ovarian tumors are rare. Ovarian cancer is the second most common malignancy after breast cancer with a higher incidence in women, after menopause, remaining one of the most lethal gynecologic cancers. Although the dimensions are gigantic, the signs and symptoms are vague and sometimes can "masquerade" as other conditions.

Case report: We present the case of a 60 years old female patient, without PPA, who is hospitalized at Surgery Unit for an abdominal-pelvic tumor formation with 25 cm in diameter, abdominal meteorism, slow intestinal transit of faeces, weight loss of 12 kg in 7 months, pathology with onset of approximately 1 year. The clinical examination reveals a disturbed, painful, diffuse abdomen with a palpable tumor in the abdominal-pelvic region of 25 cm in diameter. The patient is subject to an abdominal ultrasound and CT for an accurate diagnosis. After laparoscopic inspection of the peritoneal cavity, it is decided the treatment plan which consists of total hysterectomy with bilateral annexectomy and sigmoid segmental colectomy. Histopathology, the samples taken from the left ovary show the typical images of an ovarian metastasis of colonic adenocarcinoma. The postoperative progression was favorable, HD and CR stable patient.

Conclusion: Early identification of the giant ovarian tumor can be done through a periodic gynecological control and it can range from knowing the vague symptoms associated with the cancer to prophylactic surgical removal of at-risk tissue. The establishment of early treatment can lead to a complete healing of the patient.

Keywords: giant ovarian tumor, total hysterectomy, bilateral adnexectomy, colonic adenocarcinoma

CR71

Shifting from surgery to percutaneous coronary intervention and transcatheter aortic valve implantation: a case report

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Introduction: Aortic valve stenosis (AS) is the most common form of valvular heart disease in the elderly population and frequently occurs in conjunction with coronary artery disease (CAD). The association of these diseases is the main problem because it raises questions, particularly regarding the detection and management of both pathologies.

Case report: An 83-year-old male patient suffering from hypertension, atrial fibrillation, dyslipidemia and diabetes mellitus presented with a non-ST-segment elevation myocardial infarction (NSTEMI). Coronary angiography revealed subocclusive eccentric calcified plaque of the proximal segment of the left circumflex artery (LCx), which was a culprit lesion. LCx percutaneous coronary intervention (PCI) was successfully performed. Then, PCI of the left main coronary artery (LMCA), left anterior descending artery (LAD) and first diagonal artery (D1) was performed with a normal result and flow. Echocardiography revealed severely reduced global systolic function with a 20% ejection fraction, dilated and remodeled left ventricle, and calcified severe aortic valve stenosis. CT angiogram was performed for the evaluation of transcatheter aortic valve implantation (TAVI). Then TAVI was performed with optimal angiographic and echocardiographic results so the patient was discharged 3 days later.

Conclusion: The treatment paradigms might be considerably shifting from previous standard treatment options such as surgical aortic valve replacement (SAVR) and coronary artery bypass grafting due to the arrival of PCI and TAVI as reasonable alternatives for severe AS and CAD in high risk or inoperable patients.

Keywords: aortic stenosis, coronary artery disease, TAVI

CR72

Tachycardia, arterial hypertension and elevated troponin I as the first presentation of SARS-CoV-2 infection

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Introduction: In most cases patients with SARS-CoV-2 infection present with respiratory and gastrointestinal symptoms. In this case report young patient with symptoms of cardiovascular system is presented.

Case report: 21-year-old patient in early morning hours went to the Emergency Department with palpitations, tachycardia (139/min) and elevated blood pressure (162/97 mmHg). At the age of 16 he had elevated blood pressure on annual examination. He showed no signs of stenocardia, dyspnea, nausea or vomitus. He smokes 5-6 cigarettes a day and drinks alcohol occasionally. Only anomaly in clinical examination was tachycardia. ECG was normal with frequency of 117/min, without ST-T changes. In laboratory findings elevated levels of troponin I were noticed (c Tn I 0,115 g/L; normal range is <0,05, criterion for myocardial infarction >0,5). Other laboratory findings including toxicology and chest X-Ray were normal. During medical workup he felt shivers, body temperature was measured (37,9 °C), PCR test of SARS-CoV-2 was positive and patient was hospitalized on Department of Internal Medicine. Therapy included antibiotics and antipyretics. After 48 hours body temperature, heart rate, blood pressure and troponin I were normal. After treatment of the infection, patient was examined by cardiologist and there were no abnormalities. Nephrological and endocrinological workup is planned in the future.

Conclusion: Considering the fact that patient had no stenocardia or changes on the ECG, probable causes of elevated troponin I are infection, tachycardia and acute febrile state in the setting of COVID-19 infection.

Keywords: palpitations, tachycardia, arterial hypertension, troponin I, COVID 19

CR73

The Leser-Trélat sign in the Patient with Gastric Adenocarcinoma

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Introduction: The Leser-Trélat sign is a rare paraneoplastic cutaneous marker of internal malignancy characterised by sudden eruption of multiple seborrheic keratoses. It is mostly associated with gastrointestinal adenocarcinomas, followed by breast cancer and lymphoma. Pruritus occurs in one half of patients. Lesions rarely require any treatment as in most of the cases they tend to resolve once management of the underlying malignancy has started.

Case report: A 32-year-old female patient with family history of colorectal cancer presented with an acute eruption of seborrheic keratoses. She reported that the first symptoms were the loss of appetite and pruritus. The brown papules appeared in period of 2-3 months, first on her back, then abdomen, thorax and neck and lastly on the extremities. Physical exam showed numerous brown hyperkeratotic papules and plaques on her trunk, neck and extremities. She complained of night sweating, epigastric pain and heartburn. In last three months she lost over 15kg. The patient had an episode of acute gastritis 10 years ago and was treated for Helicobacter pylori infection 4 years ago. Laboratory results showed elevated sedimentation rate and decreased levels of haemoglobin, erythrocytes and haematocrit. CA-19-9 and CEA levels were elevated. Gastroscopy with multiple biopsies confirmed gastric adenocarcinoma. Abdomen CT scan revealed enlarged retroperitoneal lymph nodes. After total gastrectomy and starting chemotherapy seborrheic keratoses withdrew.

Conclusion: Sudden appearance of eruptive seborrheic keratoses are uncommon in young patients. This specific sign highlights the importance of considering internal malignancy in the differential diagnosis of patients presenting with eruptive seborrheic keratoses.

CR74

Neuronal migration disorder, refractory epilepsy and dysmorphic phenotype as a result of complex unbalanced translocation t(X,22)

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Introduction: X-autosome translocations are a rare type of chromosomal abnormality mostly originating from the maternal type. Most carriers are phenotypically normal with common infertility in males. The aim was to show severe presentation of unbalanced translocation t(x,22) and partial trisomy of chromosome 22 presenting with global psychomotor delay and neuronal migration disorder (NMD).

Case report: A 16-year-old girl, born from the first pregnancy, of healthy non-consanguine parents with birth weight 1540g and Apgar score 8. She was treated for two months in the neonatal intensive care unit. Presenting with global psychomotor delay followed with generalized hypotonia and dysmorphic features consisting of a brachiocephalic head, hypertelorism, epicanthus, wider nasal bridge, long philtrum, gothic palate, irregular teeth growth, long thin and pointed fingers, clinodactyly, hypoplasia of the labia majora. Magnetic resonance imaging (MRI) of the brain showed an NMD, brain anomaly, and ventriculomegaly. She has refractory epilepsy since the age of five. She has been frequently hospitalized in the past few years, mainly due to pneumonia or urinary tract infections. Due to the persistence of tracheal lumen stricture, she has an extralong cannula. An unbalanced translocation between chromosomes X and 22 was determined by karyotyping 47,XX,+der (22),t(X; 22)(q28; q11.2). Mother and maternal grandmother are the carriers of balanced translocation, and the origin is of the maternal type.

Conclusion: This presentation expanded the range of clinical manifestations for unbalanced X-autosomal translocation with a unique clinical feature of NMD on MRI and emphasized the importance of additional parental karyotyping.

Keywords: X-autosome translocation, neuronal migration disorder, epilepsy, global psychomotor delay

CR75

Urodynamic evaluation and treatment selection in male patient with lower urinary tract symptoms and small prostate: a case report

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Introduction: Lower urinary tract symptoms (LUTS) have a high prevalence in men and include urgency, straining and sense of incomplete bladder emptying. They can be caused by urological and neurological disorders.

Case report: This case describes a 49-year-old male patient with dominant storage LUTS that lasted for the past 12 months. Although he was prescribed tamsulosin, he still reported urgency, weakened urination stream, bladder pain at the beginning of the urination in the morning and sense of incomplete bladder emptying. Consequently, he was admitted for urodynamic evaluation of LUTS at the Department of Urology, University Hospital Center Osijek. Ultrasound showed 180 ml of bladder post-void residual (PVR) volume and prostate volume of 30 g with mild intravesical protrusion. Cystometry showed reduced cystometric capacity (134 ml) and bladder compliance (2 ml/cmH20) with detrusor overactivity (DO). Pressure-flow study showed high bladder outlet obstruction index (149), indicating urinary obstruction. After the urodynamics, there was no PVR. Five days later the patient was hospitalized for urinary tract infection and PVR. He was treated with antibiotics, insertion of an indwelling urethral catheter. After 3 weeks of antimuscarinic therapy for DO, urethrocystoscopy in general anaesthesia was performed. It showed the enlargement of the middle prostatic lobe elevating the bladder trigone and we indicated its resection. After the surgery PVR was 0 ml.

Conclusion: High PVR in men is usually not associated with small prostate. It is important to perform a pressure-flow study to find out the exact pathophysiology of LUTS and select the most appropriate treatment.

Keywords: urodynamics, lower urinary tract symptoms, prostate, urinary retention

CR76

Use of veno-venous extracorporeal membrane oxygenation in the treatment of acute respiratory distress syndrome caused by influenza A H3N2 virus

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Introduction: Acute respiratory distress syndrome (ARDS) is defined as a sudden onset of respiratory failure accompanied by bilateral pulmonary infiltrates on a radiograph of the lung. Veno-venous extracorporeal membrane oxygenation (VV-ECMO) is one of the supportive therapeutic options in patients with ARDS that are refractory to conventional mechanical ventilation.

Case report: This case describes a 78-year-old male patient admitted to the Intensive Care Unit due to deterioration of respiratory function as part of bilateral pneumonia. On the third day after admission, a further deterioration of gas analysis (pH 7.11, pCO2 12.2, pO2 4.8, SpO2 75%) was monitored, and the patient was endotracheally intubated and attached to mechanical ventilation. Considering that the patient met the basic criteria for the VV-ECMO procedure (SpO2 < 75 for 1 hour with FiO2 100, oxygenation index > 20 after 6 hours of optimal ventilation, pO2/FiO2 < 100 with PEEP > 10 mmHg, and hypercapnia with pH < 7, 25) on the same day VV-ECMO is placed. The VV-ECMO procedure was performed for 5 days and then discontinued due to clinical-laboratory improvement followed by regression of changes in the lung parenchyma. During this time, influenza virus type A H3N2 was isolated from the patient.

Conclusion: By presenting this case, we wanted to point out the importance of early diagnosis of ARDS and recognition of criteria for the inclusion of ECMO procedure in treatment and to confirm the positive outcome in a patient with influenza A virus type H3N2.

CR77

Weil disease: a case report

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Introduction: Weil disease is a severe form of leptospirosis, bacterial infection caused by Leptospira. It is transmitted from infected animals through their urine. It can cause acute hepatic and renal failure, hemorrhage, icterus, and thrombocytopenia.

Case report: A 53-year-old man with lumbar myalgia from 5 days ago became subfebrile and was examined by a physician. Laboratory findings showed signs of acute renal failure, liver lesion, leukocytosis, thrombocytopenia, drop in hemoglobin and erythrocytes and elevation of CRP, without leading symptom. He was in contact with domestic animals as an agriculturist. Chest X-ray showed reticular interstitial pattern, and abdomen ultrasound showed no abnormalities. Patient was admitted to the hospital where, due to his epidemiological anamnesis and tests findings, leptospirosis was suspected, and empirical antimicrobial therapy (ceftriaxone) was initiated. Next day his symptoms progressed to septic syndrome, respiratory insufficiency (significant pneumonia progression with infiltration leading to ARDS and pneumothorax) and icterus. Patient was intubated and put on a mechanical ventilation. Gradually, respiratory parameters deteriorated with development of acidosis, hemorrhage, and severe renal disfunction leading to MODS. Patient was placed on extracorporeal membrane oxygenation (ECMO) and continuous dialysis was performed. Leptospirosis was confirmed with serology findings. After weeks of therapy and supportive measures there was an improvement in the clinical condition. Patient was discharged without permanent consequences, later check-ups showed normalization of all parameters.

Conclusion: In this case epidemiological anamnesis, once again, shows its importance in differential diagnosis of an infection without leading symptom. Infection can rapidly progress, and physician must react promptly.

Keywords: Leptospirosis, Weil Disease, Multiple Organ Failure

CR78

Interstitial deletion with karyotype: 46, XY, DEL(2) (q31q33)

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Introduction: Interstitial deletions are structural changes of chromosomes caused by the loss of the central part of the chromosome arm. The aim was to present a patient with a very severe form of rare interstitial deletion - del(2)(q31-q33) presenting with intrauterine growth restriction, facial anomalies and psychomotor retardation.

Case report: We present a 2-days-old male newborn, born from the fourth maintained pregnancy (gestational diabetes, oligohydramnios, fetal growth retardation) of healthy nonconsanguineous parents; the previous three pregnancies and newborns were normal. Emergency childbirth was performed in the 34th week of gestation due to threatening fetal asphyxia. Birth weight 1440g, Appgar score 3, resuscitated instantly after birth. Postnatal dysmorphic features: microcephaly, microphthalmia, cheillopalatoschysis, low ears, camptodactyly, bilateral syndactyly of the third and fourth finger, hypoplastic second toe on the right foot, hypospadias, micropenis, generalized hypotension. Associated anomalies present were ductus arteriosus persistens and ventriculomegaly. Karyotyping determined interstitial del(2)(q31-q33). He was treated for early and late perinatal infection with pneumonia and meningitis, fed through a nasogastric tube, dependent on additional oxygen. At 8 weeks, he developed severe sepsis and died with a picture of multiorgan failure.

Conclusion: Only a few cases of del(2)(q31-q33) with different phenotypic expression (depending on the size of the microdeletion) have been described. Critical area encompasses the HOXD cluster genes, whose haploinsufficiency results in bone defects and abnormalities on hands and feet. Congenital defects of the brain, hear and clefts, are common in patients with a 2q31 deletion, but there's no specific gene or deleted region that determines these clinical features.

CR79

Premature baby suspected of CHARGE syndrome: a case report

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Introduction: CHARGE is an abbreviation for several of the features common in the disorder:coloboma,heart defects,atresia choanae,retardation,genital abnormalities and ear abnormalities.Genetic analysis is required to diagnose the CHARGE syndrome,but large and small traits are followed to facilitate its diagnosis.Major features are:coloboma of the eye,hoan atresia,ear abnormalities.Small features are heart defects,genital hypoplasia,palate defects,kidney abnormalitie.

Case report: A male premature baby born in the 34th week of gestation from another properly controlled pregnancy.After the birth, the child has a slowed heart rate, does not cry immediately, primary resuscitation is started in the delivery room, after which breathing and heart rate recovers and the child begins crying.To secure the airway, an endotracheal tube was placed.A dysmorphic phenotype was observed: lower set ears, wider spaced antimongoloid eyes, wider nasal root, retrognathia, square-shaped head, large level fontanelle, wide open sagittal suture.The clinical status is dominated by generalized hypertonia, clenched and flexed hands.CT diagnosis showed bilateral bony narrowing of the nasal passages.The described changes correspond to bilateral choanal arthrosis.After birth, the child underwent bilateral recanalization operations with a hoanalaser.

Conclusion: In children with suspected CHARGE syndrome, the problem of induction of anesthesia is posed due to the very characteristics of the syndrome. In this case report, the specific problem is the appearance of hoan atresia.A smaller-than-expected endotracheal tube is often required.The solution to securing the airway is to use a video laryngoscop.

Keywords: CHARGE syndrome, anesthesia

CR80

Collodion baby with hyperammonaemia, metabolic acidosis and two missense mutations in transglutamase 1

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Introduction: Collodion baby is the name for babies who are born covered in a skin resembling a dried collodion (a solution that drys like nail polish), most commonly caused by lamellar ichthyosis. It is a condition that affects desquamation mainly due to transglutaminase 1 deficiency. The aim was to show fulminant clinical course of lamellar ichthyosis with two missense mutations in one gene and lethal outcome.

Case report: The patient is a term female infant from mother's second pregnancy (first pregnancy terminated with spontaneous abortion). At birth, lamellar skin peel with bilateral ectropion was observed. After initial care, the patient was stable until the second day of life when her general condition deteriorated at the same time as fever and metabolic acidosis occurred. On the 3rd day of life, she develops hyperammonaemia. Metabolic disease was not detected. Due to the fulminant deterioration, the patient was transferred to the referral centre for further treatment. She died on the fourth day of her life in resistant acidosis and multiple organ failure. The clinical examination revealed mutation c.968G>A, p.(Arg323Gln) and c.1135G>C, p.(Val379Leu) in the transglutaminase 1 gene.

Conclusion: This case is a rare presentation of lamellar ichthyosis with two missense mutations in one gene. Such severe metabolic acidosis and the fulminant clinical course have never described in this disease as part of the phenotype, although sepsis and hypernatraemic dehydration are common due to widespread open wounds. Although it is a monogenic disease with a well-known clinical course, the variable severity of the phenotype must be kept in mind.

Keywords: Hyperammonaemia, Lamellar ichthyosis, Metabolic acidosis

OSCON

CLINICAL MEDICINE

ABSTRACTS

CM01

Plasma circulating miRNA – 155 in patients with stable coronary artery disease and metabolic parameters

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Introduction. Circulating plasma MicroRNA (miRNA) –155 have been identified as possible biomarker for various diseases, especially in atherosclerosis. Recent studies show that miRNA-155 mainly promotes its role through regulation of macrophage differentiation in atherosclerosis' and various metabolic processes. This study aimed to evaluate the association between circulating plasma levels of MiRNA-155, coronary artery disease (CAD) and metabolic parameters.

Materials and methods. A total of 40 patients with stable coronary artery disease, impaired glucose tolerance defined as 5,7 – 6,4 HbA1c and age ⩾ 18 from January 2020 till September 2020 were enrolled. Total RNA was isolated from plasma to evaluate the expression of circulating MiRNA-155. The severity of CAD was calculated according to the SYNTAX score. Plasma lipid and glucose metabolism-related variables were measured to determine any association with miRNA expression.

Results. In our cohort participated 26 males and 14 females. The average age of the patients was 62 and body mass index (BMI) 31.1 kg/m2 . Expression of miRNA – 155 was positively correlated with C-peptide (r= 0.453; p= 0.012), HOMA index (r= 0.448; p= 0.013), BMI (r= 0.386; p= 0.016) and triglycerides (r= 0.318; p= 0.048). No significant correlations between plasma circulating MiRNA-155 and SYNTAX score (r=0.078; p=0.647) was observed.

Conclusion. Our study results show that higher miRNA-155 expression positively correlates with increased BMI, HOMA index, C-peptide, and triglycerides. However, the correlation between plasma levels of MiRNA -155 and severity of CAD was not found. We suggest that in our cohort systemic inflammation promotes insulin resistance than the development of atherosclerosis.

CM02

Microsatellite instability and loss of heterozygosity in patients diagnosed with chronic myeloid leukaemia

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Introduction: Philadelphia-positive chronic myeloid leukemia (CML) is a clonal myeloproliferative disease driven by t(9;22)(q34;q11) chromosomal translocation that gives rise to a druggable, constitutively active tyrosine kinase BCR-ABL1. As the disease progresses, the surviving pool of self-renewing leukemic stem cells continues to accumulate mutational events that end-up in a widespread loss of heterozygosity (LOH) and microsatellite instability (MSI). In solid cancer, these processes have been associated with treatment failure and poor prognosis, but less is known about the prevalence and impact of MSI and LOH in CML.

Materials and methods: Paired buccal swabs and peripheral blood samples were collected from 10 healthy volunteers and 18 Ph(+)CML patients with one (n=13) or two (n=5) prior TKIs and evidence of complete cytogenetic response. Poly- and mononuclear leukocytes were separated via gradient centrifugation, and QIAmp DNA Blood Midi set/InstaGene Matrix were used for DNA extraction. DNA was quantified (Qubit fluorometer), and 15 somatic short tandem repeats (STR) were analyzed by capillary electrophoresis (AmpFLSTR Identifiler Plus PCR Amplification set).

Results: MSI events were encountered in 4 out of 18 CML patients, including 2 individuals who switched from imatinib to second-generation TKI (nilotinib). The highest MSI occurrence was noticed in polymorphonuclears (17 %), most often within D8S1179 (n=3), D3S1358 (n=2), and D5S818 (n=2) loci. No MSI was observed in buccal swabs representing germline STR content in either group.

Conclusion: MSI is unfrequent in CML, at least in the initial, therapeutically amenable stage. High-coverage whole-genome sequencing is needed to address genetic instabilities in stable and accelerated CML.

CM03

Predictors of complications and death outcome in hospitalized *Influenza* patients

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Introduction: Influenza is an acute illness caused by one of the influenza viruses. Due to its high frequency, easy spread, tendency to complications and possible death, influenza is a major public health problem.
Materials and methods: The study included all hospitalized patients with clinically and/or laboratory-proven influenza at the Clinic for Infectious Diseases of the Clinical Hospital Center Osijek in the period from December 2018 to April 2019. From the medical history of hospitalized patients, the following data were collected and analyzed: age, sex, laboratory findings, chest X-ray findings and outcome of treatment (recovery, transfer or death). Logistic multivariate regression analysis was used to predict the likelihood of complications and negative outcome and was expressed as an odds ratio and a 95% confidence interval. Receiver Operating Characteristic analysis was used to determine the optimal limit value of predictors that proved significant in regression analysis.
Results: Two independent predictors gave a unique statistical significance that contributes to the model of predicting pneumonia – female sex compared to men and elevation of CRP. Two independent predictors made a unique statistically significant contribution to the model of predicting a negative outcome – age and elevation of serum urea. CRP can be presented as a diagnostic indicator with a resolution point greater than 128.9 mg/L. Urea with a value greater than 9.2 mmol/L and age greater than 78.8 years are diagnostic indicators of the negative outcome.
Conclusion: Laboratory findings, sex and age can be important in predicting development of complications and outcomes of hospitalizes patients with Influenza.

Keywords: Influenza, Human; Pneumonia; Comorbidity

CM04

Respiratory support and insomnia after acute respiratory distress syndrome by COVID-19

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Introduction: The incidence of insomnia in COVID-19 patients reaches 74.8%. The aim of the study is to establish a relationship between the insomnia severity, hypoxia and the type of respiratory support.

Materials and methods: 148 hospitalised patients with confirmed by PCR SARS-CoV-2 infection (70 women and 78 men) were included. Patients were divided according to the type of respiratory support: noninvasive ventilation (NIV) – 43, oxygen supply - 68, without respiratory support -37. The groups were representative by gender and age. Insomnia assessed by the Athens Insomnia Scale (AIS) scoring. For all patients were calculated SpO2/FiO2 ratio.

Results: SpO2 / FiO2 ratio for the NIV group was 172.9 ± 48.0; for oxygen supply group 190.5 ± 53.8 and without respiratory support 409.4 ± 63.7. AIS for the NIV group 14.2 ± 5.0; for oxygen support group 12.5 ± 4.2 and for group without respiratory support 8.97 ± 3.7 respectively. Analysis of the results obtained showed an inverse correlation between AIS and SpO2 / FiO2 ratio (-0.455), a direct correlation between the type of respiratory support and AIS (0.394).

Conclusion: A significant correlation between the severity of insomnia and the type of respiratory support is lower than the correlations between AIS and SpO2 / FiO2 ratio, which suggests a leading role in the formation of insomnia, the severity of hypoxia, rather than the type of respiratory support.

CM05

Oral manifestations of coeliac disease in children and young adults

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Introduction: Coeliac disease (CD), a gluten-related autoimmune enteropathy which manifests itself in genetically susceptible individuals, cause a great number of inconveniences to paediatric patients such as stomach ache, chronic diarrhoea, vomiting, constipation and oral manifestations. Dental screening for CD should be a regular diagnostic factor. Aim of the review is to demonstrate correlation between coeliac disease and oral findings.

Review: This systematic review of oral manifestations of CD has analysed 36 studies. Inclusion criteria: clinical researches published from 2000 to 2020, regarding children and young adults. Patients aged 1 to 34 years old have been considered. Coeliac disease indicates a higher prevalence of specific oral symptoms: dental enamel defects (DED) –in 20-83,3% patients (24 studies), recurrent aphtous stomatitis (RAS) in 8,3-69% patients and aphtous-like-ulcers (ALU) –in 22,7-63,15% patients (17 studies). Less frequent symptom is a reduced saliva flow/xerostomia in 15,4-58% patients (5 studies). Decreased (6 studies) and increased (4 studies) caries experience has been observed using DMF/dmf index; decreased – 0,13±0,12 to 3,7±3,55, increased – 2,31±1,84 to 6,1±4,28. Early diagnosis and rapid onset of CD treatment – a lifelong gluten-free diet, reduces both systemic and oral ailments. Patients with oral symptoms of CD benefited from gluten-free diet.

Conclusion: Dental enamel defects, recurrent aphtous stomatitis and aphtous-like-ulcers are most frequent oral manifestations of coeliac disease in children. Dentists should be aware of the importance of their role in a diagnostic process of CD, often being the first ones to recognise disease by its specific oral symptoms.

Keywords: coeliac disease, paediatric dentistry, children, oral manifestations

CM06

Is Alzheimer's disease a new Type of Diabetes?

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Introduction: Latest reports suggest that diabetes play significant role in Alzheimer's disease (AD) pathogenesis. Understanding this link could provide a new approach in modulating the onset and progression of sporadic AD cases. The aim of the study is to present the current state of knowledge on the basic mechanisms and factors affecting the development of AD in patients with type 2 diabetes in the context of clinical practice.

Review: Epidemiological studies report that around 80% of people with AD have type 2 diabetes or insulin resistance. It is known, that diabetes causes fibrotic changes in the cerebral vessels. Moreover, insulin is directly involved in β-amyloid production and tau protein hyperphosphorylation. Study from 2018 found that progression of diabetes leads to hippocampus atrophy. In the course of diabetes, cytokines are released, which due to the increased activity of microglia, cause the neuronal atrophy. Intracellular insulin deficiency causes over-activity of GSK3 enzyme which leads to tau hyper-phosphorylation and senile plaques accumulation. Unfortunately, at the current state of knowledge there is no confirmed evidence that any diabetes therapy can prevent the development of Alzheimer's disease. However, it has been reported that the correct prevention of metabolic diseases allows for decrease in incidence of AD.

Conclusion: The link between these two diseases is so strong that AD is sometimes referred to as Type 3 diabetes. Therefore, it is crucial to pay attention to the cognitive abilities of patients with metabolic diseases. More research is needed on anti-diabetic drugs as potential treatment for AD.

CM07

Analysis of pseudoaccommodation factors after phacoemulsification and monofocal lens implantation

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Introduction: The aim was to find and compare the factors of pseudoaccommodation after phacoemulsification cataract surgery and monofocal intraocular lens (IOL) implantation among patients with the possibility of good or poor pseudoaccommodation. The correlation and influence of axial lenght (AL), anterior chamber depth (ACD), cumulative dissipated energy (CDE), IOL power, corneal astigmatism on pseudoaccommodation were identified.

Materials and methods: In this prospective cohort study there were 30 patients included of both genders who successively underwent ultrasound phacoemulsification cataract surgery. The best corrected visual acuity was determined to every patient on the day of the surgery and one month after the surgery. Every patient underwent keratorefractometry for astigmatism measurement, ultrasound biometry of the eye to measure AL and ACD, IOL power measurement before IOL implantation. One month after the monofocal IOL implantation uncorrected near visual acuity was assessed.

Results: Nineteen patients had good and eleven had poor pseudoaccommodation. Patients with poor pseudoaccommodation had greater CDE than patients with good pseudoaccommodation, the correlation was not significant. Analysing ACD and AL with pseudoaccommodation, in both groups of patients' significant correlation existed, except in the group with long AL. The median of EFU was slightly lower in patients with good pseudoaccommodation, without significant correlation. Analysing type of astigmatism and power after phacoemulsification, in both groups of patient significant correlation was not detected.

Conclusion: Factors like AL, CDE, IOL power, corneal astigmatism didn't influence significantly on pseudoaccommodation ability. Factors like CDE and IOL power should be examined in study with larger patient population together with pupil diameter and corneal higher order aberations.

Keywords: Phacoemulsification, monofocal IOL, pseudoaccommodation

CM08

Efficacy and risks of oral anticoagulants after electrical cardioversion for atrial fibrillation in high-risk patients – one year outcomes

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Introduction: Oral anticoagulants (OAC) are high-risk atrial fibrillation (AF) patient management cornerstone, including periprocedural anticoagulation. OAC therapy possesses bleeding risks, balancing with insufficient efficacy, resulting in thrombotic events, especially important for long-term intake. Objective was to evaluate efficacy and risks of OAC therapy after electrical cardioversion (ECV) in patients with high-risk AF, during one year period.

Materials and methods: Research was conducted among high-risk AF patients (defined based on CHA2DS2-VASc score, according to ESC Guidelines), undergoing ECV. Adequate prior anticoagulation (as specified in ESC Guidelines) was required. Face-to-face interview was conducted, followed by 1-, 3-, 6-, 9- and 12-month follow-up. Endpoint for efficacy evaluation was thrombotic event prevention, whereas non-traumatic clinically-relevant non-major bleeding (CRNMB) and major bleeding (corresponding to International Society on Thrombosis and Haemostasis definitions) was risk assessment endpoint. For data evaluation MS Excel and SPSS Statistics software was used.

Results: 121 patients were included, with median CHA2DS2-VASc score 2 (IQR=2-4) among men (55.4%) and 4 (IQR=3-5) among women (44.6%). 18.2% of patients were prescribed a VKA (17.4% warfarin, 0.8% phenprocoumon), 81.8% – a NOAC (65.3% rivaroxaban, 16.5% dabigatran). Regarding thrombotic events, one patient – 0.8% experienced ischaemic stroke, with corresponding OAC efficacy in 99.2% of cases. CRNMB occurred in 7.4% of participants, whereas no major bleeding events were reported. Therefore, estimated risk-benefit ratio comprised 0.075, with statistically significant difference between outcomes ($p<0.001$).

Conclusion: OAC therapy is overall well tolerated in high-risk AF patients after ECV, with relatively minimal risks. Efficacy of OAC intake, remarkably outweighing potential risks, was established.

CM09

Clinical case of diagnostic evaluation and conservative treatment of severe aortic stenosis

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Introduction: Aortic stenosis is a condition in which the aortic valve becomes narrowed and obstructs blood flow between the left ventricle and aorta.

Review: This study covered a 66 years old male patient. The patient presented with dyspnea. Physical examination revealed the presence of systolic murmur and mild peripheral edema. Lab tests were normal except for elevated brain natriuretic peptide level up to 860 pg/ml. ECG demonstrated left ventricular hypertrophy. The Echo denoted severe aortic stenosis, moderate pulmonary hypertension, dilated left cardiac chamber with reduced contractility, dilated inferior vena cava, and right-sided pleural effusion. Eventually, the patient was diagnosed with heart failure due to severe aortic stenosis. Nevertheless, the presence of pleural effusion raised suspicions of lung malignancy. Thus, chest X-Ray and CT imaging were used to confirm the unilateral right-sided pleural effusion and to check for signs of lung cancer. Furtherly, pleural fluid was investigated for any malignant cells and presented negative results. Pleural drainage was done as an initial step for treatment. Congestive heart failure was treated with Torsemide and Spironolactone. Also, a low dose of carvedilol. The management resulted in enhancing the left ventricular ejection from 35% to 52% while the transaortic mean pressure gradient increased from 38 mmHg to 46 mmHg. Finally, the patient was filed as a candidate for aortic valve replacement surgery.

Conclusion: Lastly, 1 in 8 people aged 75 and above have a moderate/severe aortic stenosis. Moreover, it accounts for 3%-5% of all congenital heart defects. Thus, this abstract elaborately presented it.

CM10

Daily fluctuations of serum ghrelin levels and pain in patients with Parkinson`s disease

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Introduction: Ghrelin regulates energy homeostasis by stimulating appetite and body weight; however, it also has many nonmetabolic functions. In Parkinson's disease, ghrelin enhances dopaminergic survival. Pain is one of the common symptoms of Parkinson`s disease. Last researches have indicated that ghrelin induces antinociceptive effects in acute pain in mice. But it is unclear about daily ghrelin fluctuations and pain in patients with Parkinson`s disease.

Materials and methods: Study included 41 patients with Parkinson`s disease with different forms of disease, namely group 1 – alinetic-rigidity form (n=24), group 2 – tremor-akinetic-rigidity form (n=17). For comparison, we examined 11 healthy people who made up the control group. Pain was measured by visual-analogue scale. Serum ghrelin levels analyzed ELISA technique. To compare quantitative data Kruskall-Wallis test and Dunn`s post hoc test were used.

Results: Morning level of ghrelin in groups 1 and 2 have no significance difference, but in both groups it lower than in control group. Its evening level in group 2 lower than in control group. In groups 1 and 2 there were no daily fluctuations of ghrelin, while in the control group the evening level was significantly higher. In group 1 and control patients having daily fluctuations of ghrelin had lower level of feel pain than who having not it. In group 2 these features did not differ, but evening level of ghrelin associate with higher level of pain.

Conclusion: Patients with Parkinson`s disease who have not daily fluctuations due to absence of raising evening serum ghrelin level feel more pain.

CM11

Changes in systolic function in patients with chronic heart failure depending on concentration of NGAL in serum.

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Introduction: Lipocalin, associated with neutrophilic gelatinase (NGAL), is considered an informative biomarker of chronic kidney disease and cardiovascular disease. There is a lack of scientific data on the association of LV systolic function in patients with CHF of ischemic origin with serum NGAL.To investigate the relationship between serum NGAL levels and LV systolic function in patients with CHF of ischemic origin.

Material and methods: Doppler echocardiography and enzyme-linked immunoassay of serum NGAL were performed in 51 patients with CHF, II-IV FC. The cut-off value of NGAL (168 ng/ml) was established by ROC-analysis depending on the cumulative endpoint (death, ACS, stroke, decompensated HF). Patients with CHF were divided into 2 groups. In the first group (n=37) the NGAL level was higher, in the second (n=14)- less than 168 ng/ml. Patients of both groups were comparable in age, height, weight, body surface area.

Results: The average NGAL level in the first group was 192(183;200) ng/ml, in the second group -154(134;160) ng/ml. In patients with CHF with elevated NGAL levels, LV systolic function showed a tendency to decrease (S'med 6.90±2.85 cm/s vs. 7.67±2.83 cm/s, (p=0.536); S'lat 7.33±2.08 cm/s vs. 11.00±4.00 cm/s, (p=0.467); TEILV 0.56±0.26 c.u. vs. 0.49±0,14 c.u., (p=0.747)). LVEF was lower in patients with CHF with elevated compared to normal NGAL levels (50.43±17.85% vs. 63.29±13.24%, p=0.021).

Conclusion: An increase in serum NGAL level above 168 ng/ml in patients with CHF of ischemic origin is associated with a decrease in LVEF by 20% (p=0.021).

CM12

Chest imaging methods and radiological findings in patients with COVID-19

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Introduction: Clinical presentation of COVID-19 is often unspecific, and a lot of patients have mild or no symptoms. While RT-PCR is the golden standard for COVID-19 diagnostic, and antigen test has become used as a screening method, in literature is emphasized the importance of radiology imaging. CXR (Chest X-ray), CT (computer tomography) and LUS (lung ultrasound) are reported as highly efficient methods for detection of atypical and organizing pneumonia caused by SARS-CoV-2.

Review: CT findings in SARS-CoV-2 positive patients with pneumonia describe bilateral ground-glass opacities (GGOs) and consolidation with a peripheral and posterior lung distribution. CXR in several case reports showed interstitial bilateral pneumonia with a predominance of basal and peripheral distribution. The other pathological findings on CXR are nodules, reticular-nodular and ground-glass opacities. It has been reported that some patients with RT-PCR positive test results have COVID-19 nonspecific signs as vascular congestion, cardiomegaly, pleural effusion. On the other side, in LUS the most common findings are multiple B-lines in two or more regions in combination with single B-lines in multiple regions. The most affected regions are 5 and 6 bilaterally. The results obtained by LUS correlate with the clinical presentation of COVID-19, the method is fast and there is no need for patient mobilization. In comparison with CXR, LUS can present smaller pleural effusions.

Conclusion: Although radiology methods should not be used as diagnostic and screening tools for COVID-19, there is great importance in the determination of the severity of pulmonary damage during illness and for recovery outcomes prediction.

CM13

Markers of right ventricular dysfunction in acute pulmonary embolism

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Introduction: Right ventricular (RV) dysfunction is common in severe cases of pulmonary embolism (PE) and it is associated with poor prognostic value and high mortality rate. Markers of RV dysfunction have been suggested as predictors of mortality and morbidity in acute PE. In this review we intend to summarize the value of prognostic markers in acute PE.

Review: Cardiac markers such as troponin and brain natriuretic peptide (BNP) are sensitive, but not specific indicators of RV dysfunction and are widely used to stratify risk in patients with acute PE. In PE, troponin levels peek 10 hours after presentation and stay elevated for 40 hours and has been shown as a good prognostic value. On the other hand, high sensitive- troponin (Hs-TnT) was shown to be more accurate than troponin T. Elevated BNP and N-terminal pro-BNP (NT-pro BNP) were associated with an increased risk of 30-day mortality in acute PE. New markers such as heart-type fatty acid-binding protein, growth differentiation factor 15 and neutrophil gelatinase-associated lipocalin were also shown to predict mortality in acute PE but are still not used in routine clinical practice.

Conclusion: RV dysfunction in acute PE is a cause of poor prognosis and potential death, thus early recognition is crucial. Apart with troponin T and NT-pro BNP, it has been recently shown that markers as heart-type fatty acid-binding protein, growth differentiation factor 15 and neutrophil gelatinase-associated lipocalin are elevated in RV dysfunction and can have an important role in risk stratification and assessment of prognosis. In the future, these markers could be included in risk stratification algorithms.

Keywords: acute pulmonary embolism, markers, right ventricular dysfunction

CM14

Maternal and perinatal outcomes in pregnant women with HIV in a tertiary care hospital in Poltava, Ukraine

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Introduction: Mother-to-child transmission (MTCT) of HIV occurs when HIV is transmitted from a woman living with HIV to her baby during pregnancy, labor or delivery, or through breastfeeding. Without treatment, approximately 15–30% of infants born to HIV-positive women become infected with HIV. This study was aimed to assess the impact of maternal HIV infection on pregnancy outcomes in a tertiary center in Poltava, Ukraine.

Materials and methods: We retrospectively analyzed delivery records of 27 HIV-positive women, who had given a birth in Perinatal Center of M.V. Sklifosovsky Poltava Regional Clinical Hospital during 2017-2018. Statistical analysis was performed using SPSS software.

Results: Totally, there were 10 and 17 childbirths in women with HIV in 2017 and 2018 respectively in Perinatal Center of M.V. Sklifosovsky Poltava Regional Clinical Hospital. Adverse maternal outcomes in women with HIV after childbirths were anaemia (51.9%), antepartum haemorrhage (40.7%), caesarean delivery (40.7%) and acute renal failure (11,1%). However, it should also pointed out that acute renal failure occurred in women who received antiretroviral therapy (ART). 13 babies (48.1%) from 27 were born preterm and 14 (51.9%) with low weight. Nevertheless, preterm births were lower in HIV-positive women receiving ART. Moreover, among adverse perinatal outcomes were early-outcome neonatal sepsis (7 neonates (29.9%)), infant respiratory distress syndrome (10 neonates (37.0%)) and disorders of CNS (4 neonates (14.8%)). There was 1 stillborn baby in both 2017-2018.

Conclusion: Despite of success of ART, severe maternal and perinatal outcomes in pregnant women with HIV in Poltava during 2017-2018 still being high.

CM15

The effectiveness of Nd: YAG laser capsulotomy for treatment of posterior capsule opacification in patients with acrylic hydrophobic intraocular lenses

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Introduction: Cataract is the most common cause of blindness in the world and ultrasound phacoemulsification is a gold standard surgery. The procedure includes implantation of intraocular lens (eng.IOL) in the capsular bag. Sometimes, posterior lens capsule opacification (eng.PCO) may occur and decrease the best corrected visual acuity (eng.BCVA). Nd: YAG laser capsulotomy is the procedure for the management of the PCO.The aim of this study was to analyse the effectiveness of Nd: YAG capsulotomy in patients with PCO after hydrophobic acrylic IOL implantation comparing BCVA before and after laser and to analyse complications after it's performance.

Materials and methods: The retrospective cohort study included 30 patients with PCO and was taken at the University Hospital Osijek, Department of Ophthalmology, from September to December 2020. Every patient underwent BCVA evaluation and IOP (eng.intraocular pressure) measurement before and after surgery and underwent Nd:YAG laser capsulotomy. Age, gender, IOP, BCVA before and after laser and Nd:YAG laser complications were taken from the medical records.

Results: The BCVA median of the right and left eye before laser surgery was 0.6 and after surgery was 1,0 and was statistically significantly improved (Wilcoxon test, P=0,001). Two patients(6,6%) had elevated IOP above 22 mmHg after laser, but with no statistically significant difference before and after Nd:YAG laser (Wilcoxon test, P=0,34). 3(10%) patients had laser complications like punctiform damages of IOL, residual PCO and glistenings without decreasing of BCVA.

Conclusion: Nd:YAG laser capsulotomy is the most effective and safe method in the management of PCO for improvement of BCVA and is rarely followed up with complications.

CM16

Characteristics and outcomes of patients with deep vein thrombosis diagnosed in Emergency department of Clinical Hospital Dubrava during 2019

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Introduction: Deep vein thrombosis (DVT) is a relatively common condition in Emergency Department (ED). After the introduction of novel anticoagulants (NOAC), many patients with DVT do not require hospitalization.

Materials and methods: In this retrospective observational study, we analyzed medical records of patients diagnosed with DVT during 2019 in ED of University Hospital Dubrava.

Results: We identified 295 patients with DVT that comprised 1.2% of all patients examined in ED. There were 41% men and 59% women, with a median age of 65 (20-94) years. Most patients (70%) had proximal DVT, 26% had isolated distal leg thrombosis, and 4% had jugular or arm thrombosis. Additionally, 19% patients had pulmonary embolism simultaneously. DVT was idiopathic in 42% of patients. Secondary DVT was provoked by malignancy (41%), immobilization (33%), immobility (13%), or other causes. Hospitalization was required in 70% patients, whereas 30% were treated in outpatient setting. The patients were treated with low molecular weight heparin (LMWH) followed by rivaroxaban (44%), LMWH followed by warfarin (20%), LMWH only (16%), LMWH followed by other NOAC (11%), rivaroxaban only (9%). Control doppler ultrasound was performed in 58% of patients, with complete resolution in 63%. Patients treated with warfarin had significantly higher incidence of bleeding than patients treated with rivaroxaban (8/59 vs. 7/185¬, respectively); p=0.006, χ2-test.

Conclusion: Almost 2/3 of patients with DVT were treated with NOAC (mainly rivaroxaban) and nearly 1/3 were not admitted to hospital. Patients treated with warfarin had more bleeding events. In future, we expect increased rate of outpatient management with NOAC.

Keywords: Deep vein thrombosis, Emergency department, NOAC, warfarin, LMWH, bleeding

OSCON

REVIEWS

ABSTRACTS

R01

Robotic assisted cardiothoracic surgery (RAS) during COVID-19 pandemic

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Introduction: Considering the risks in times of COVID-19 pandemic, it is necessary to come up with safer and more adequate methods of surgery. Robotic surgery is considered a minimally invasive procedure with the smallest risk of transferring the infection. The goal of this paper is to show the advantages and disadvantages of this method in cardiothoracic surgery.

Review: Data was extracted from PubMed and Nature. While trying to lower the possibility of medical staff getting infected, surgeries have become categorized by importance. For now, specific guidelines for cardiothoracic RAS during the pandemic are not made, but some of the propositions are to minimize CO2 release, reduce introduction and removal of instruments through the ports, and use an air-lock system. Some of the surgical methods are producing surgical smoke, which can contain viral particles, so it is recommended to use an integrated flow system with continuous smoke evacuation through an Ultra-Low Penetrating Air (ULPA) filter or water lock to avoid the escape of particles. These methods are highly problematic during RAS because of the increased intracavitary pressure. Cardiothoracic RAS may require one-lung ventilation, but it may constitute a severe danger to both the patient and healthcare workers. RAS also has many advantages, such as shorter recovery and less contact with the infected tissue and fluids.

Conclusion: Robotic surgeries are a preferred choice for necessary procedures, but one should be careful about using electrosurgical and ultrasonic devices, which could make the viral particles airborne. Overall recommendations include using filtration systems, personal protective equipment, thorough patient selection, and reducing the duration of surgeries.

R02

The influence of type 1 HIV and its proteins, Vpr and Tat, on the mitochondrial DNA of human neurons

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Introduction: Mitochondrial dysfunction is one of the characteristics of neurodegenerative changes linked with age, but an infection of HIV-1 has shown analogous outcomes. It is considered that HIV-1 causes the damage of mtDNA by inducing the transcription of genes for proteins Vpr and Tat. The goal of this paper is to show a correlation between chronic HIV-1 infection and the damage of mitochondrial DNA in neural tissue to indicate possible therapies for neurodegenerative damages caused by HIV-1 and its proteins.

Review: Data was extracted from PubMed and Nature. To discover a connection between HIV infection and damaged mitochondrial function a variety of methods has been used, such as cell culture, treatment of neuronal cells and PBMC with HIV-1 and Tat/Vpr proteins, extraction of mtDNA and its replication with PCR techniques, and biological stress markers. The results show that a chronic HIV-1 infection consequence with severe mtDNA damages that result in oxidative stress and apoptosis which is the base of neurodegenerative damages caused by HIV-1. Similar observations were made on some of the cell cultures treated with HIV proteins (Tat/Vpr).

Conclusion: This research has shown that HIV has a significant effect on the nervous system, so we categorize it as a neurotropic virus. The exact mechanism and direct influence of HIV-1 and its products are not known yet but it has been shown that it causes neurodegenerative changes linked to the mechanism of mtDNA and mitochondrial function. This research paves a way for the future ones in hope of finding a therapy for the effects of HIV on the nervous system.

R03

The Great Experiment of Daylight-Saving Time

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Introduction: Reduced sleep quantity and quality are both associated with increased mortality. According to CDC, more than one third of Americans sleep less than the minimum recommended 7 hours per night. In this study we examined association of 1-hour sleep alterations, as a consequence of daylight-savings, with total weekly mortality in European countries.

Materials and methods: Data was extracted from Eurostat. Only countries with consistent weekly death reports in timespan of 2010-2019 were included – total of 25 European countries. One-way ANOVA with post-hoc Tukey's HSD test was used to compare weeks following clock shifts in spring and autumn, due to daylight-savings, and average weekly deaths for a given year.

Results: We observed statistically significant increase in weekly deaths following spring clock shifts compared to both average weekly deaths in a given year (42928.6±1897.6 and 41286.8±997.4, $p < 0.05$), and weekly deaths following autumn clock shifts (42928.6±1897.6 and 40244.4±938.5, $p < 0.005$). We didn't observe any statistically significant difference between weekly deaths following autumn shifts and annual average weekly deaths.

Conclusion: In agreement with literature, reducing sleep for just 1 hour is associated with worse health outcomes. Impact of restricted sleep quantity, after spring clock shift, has a tangible effect in terms of total mortality even on a weekly scale. Restricted sleep might also have significant implications for patients diagnosed with COVID-19, and possibly immune response to vaccine.

Keywords: sleep, daylight-saving time, mortality

R04

Efficacy of metformin on pregnancy complications in women with polycystic ovary syndrome

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Introduction: The first date about the use of metformin in pregnant women comes from 1975. The growing number of evidence has been showed that continued metformin use is beneficial in the management of polycystic ovary syndrome (PCOS) in pregnant women. The aim of the study is to summarize previous knowledge about the effects of metformin in pregnant PCOS patients.

Review: Even though it is known that maternal hyperglycemia is a significant factor of miscarriage and premature birth, the concerns about metformin safety were related metformin transfer across placenta. Its levels in fetal blood are comparable to those in maternal blood. Nowadays, due to the increasingly wider indications for the use of this drug, such as polycystic ovary syndrome (PCOS) the data on the safety of metformin in women in the early period of the experiment are much more complete. The rates of early pregnancy loss and preterm delivery were found to be significantly decreased in metformin-treated PCOS women. A non-significant difference was found in fetal abnormality and fetal birth weight between the metformin-treated and the non-treated groups.

Conclusion: Metformin therapy in pregnant women seems to be safe and does not increase the incidence of fetal the malformation or miscarriage in PCOS patients. The effects of metformin on GDM and hypertension/preeclampsia should be determined through high-quality randomized controlled trials.

R05

Return of vaccine-preventable diseases due to the antivaccination movement

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Introduction: In light of the new COVID-19 vaccine, we will look back on the benefits that vaccines give to the world population and the dangers the new antivaccination movement brings. Vaccines are a modern solution to ancient problems, so the goal of this paper is to show which of their benefits we, as a modern society, reap in hopes of people accepting the new COVID-19 vaccine.

Review: Data was extracted from PubMed and Nature. One of the best examples of the effect of vaccines is the eradication of measles and smallpox in the late 20th century. In the past few years, many outbreaks of measles have been confirmed in highly developed European countries. The only reason for the reappearance of eradicated diseases is people's decision not to vaccinate themselves or their children. The arrival of the antivaccination movement is the only cause of a decrease in vaccination of the population. The main misconception is that vaccines cause autism, even though researchers show no correlation between vaccines and autism. The European Commission recently identified the antivaccine movement as a health security threat and is making proposals to fight it such as programs of advocacy and electronic vaccination cards.

Conclusion: One of the arguments against vaccination is that we should have complete control of what goes into our bodies. However, it is not taken into consideration that vaccination does not protect only us, but also those around us. Even though the COVID-19 vaccine was developed in record time, we should have faith in modern medicine and protect others by protecting ourselves first.

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OTHER

ABSTRACTS

OT01

Common misconceptions about COVID-19 pandemic among student population

Stipe Vidović[1]; Barbara Viljetić[2]

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2 - Department of Chemistry and Biochemistry, Faculty of Medicine Osijek, Osijek, Croatia

Introduction: Ever since the emergence of the COVID-19 and its spread as a pandemic, media was teeming with news that led to overabundance of virus-related information, some of which are false and potentially harmful. Information overload helps fake news, inaccurate information and conspiracy theories spread quickly and widely, making it more difficult for the public to identify verified facts and advice from trusted sources. The aim of this study was to evaluate the knowledge about pandemic and the frequency of the common misconceptions about COVID-19 among the students of different faculties in Croatia.

Materials and methods: This cross-sectional study was conducted using an anonymous online-based questionnaire that took place in December 2020. 517 students participated in the survey.

Results: Most students answered correctly that wearing a mask reduces the possibility of SARS-CoV-2 infection (80.3%) and that there is a possibility of reinfection with SARS-CoV-2 (80.5%). On the other hand, the results indicated the presence of common misconceptions among students. 28.3% of students believe that mortality caused by SARS-CoV2 is significantly lower than mortality caused by seasonal flu. 20.5% believe that the SARS-CoV2 virus originated from laboratory in China. 19.5% believe that infection with SARS-CoV2 virus is only possible in case of contact with a person who is COVID-19 positive and has symptoms.

Conclusion: This research proved the presence of common misconceptions among student population. When comparing answers of medical students with students of other faculties, medical students were more accurate in solving the questionnaire.

OT02

New generation of vaccines – mRNA vaccines as the most promising tool against the COVID-19 pandemic

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Introduction: The COVID-19 pandemic and the urgent need to develop a vaccine against SARS-CoV-2 have accelerated the development of the mRNA technology, which was already shown to be promising because of its rapid development, high-potency, low-cost manufacturing, and safe administration. The aim of this review is to present current mRNA vaccine findings, to point out challenges and recent successes, as well as to offer a perspective on the future of mRNA vaccines.

Review: Current research of the RNA-based vaccines is usually divided between two platforms, depending on the RNA used for the vaccine: a non-replicating mRNA and a virally derived, self-amplifying, RNA (saRNA). While both types encode the antigen of interest, the saRNA also encodes the viral replication machinery. Until recently, the mRNA vaccine development has been limited by the mRNA instability and inefficient in vivo delivery. Today, there are two basic approaches to the mRNA vaccine delivery that have been described. The first approach amounts to loading of the mRNA into the patient's dendritic cells ex vivo. This approach has greater precision and efficacy, but it is both time-consuming and labour-intensive. The second approach, which has garnered a lot of attention lately, involves a direct parenteral injection of the mRNA with or without a carrier, thus greatly simplifying the vaccine delivery and enabling cost-effective mass vaccination.

Conclusion: COVID-19 pandemic has shown that the mRNA-based vaccines are one of the most promising public health tools for quickly responding to a novel pandemic infectious disease.

Keywords: mRNA, vaccines, SARS-CoV-2

OT03

Attitudes and behaviour in students of biomedical field in comparison with other students during the 2020 COVID-19 pandemic

Matea Smajić[1]; Luka Medić[1]; Ivan Prigl[1]; Matea Lukić[1]; Marta Poje[1]; Petra Smajić[2]; Lada Zibar[1,3]

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3 - University Hospital Merkur, Department of Nephrology, Zagreb, Croatia

Introduction: Since the COVID-19 pandemic has started, it has affected many people's usual activities and lifestyle, including Croatian students' lives. The aim of the study was to examine whether attitudes and behaviour of students in biomedical (B) field differed from those in other (O) fields at University Josip Juraj Strossmayer in Osijek (UJJSO). We hypothesized that B students would behave more responsible.

Materials and methods: We created and performed an online anonymous questionnaire on attitudes and behaviour related to COVID-19 pandemic that contained 10 questions. The research was made in November 2020 and it included total of 348 students (46 % B students) of the UJJSO. Data were statistically processed by the IBM ® SPSS ® Statistics 25.0 software, at statistical significance level of $P < 0.05$.

Results: Twenty-five percent of B students and 11.17% of O students ($P = 0.001$) answered that they did not go in nightclubs respecting the Civil Protection Headquarters' recommendations. Regarding their socializing indoors 24.38 % of B students and 45.21 % of O students behaved as same as before the pandemic ($P < 0.01$). The vaccine against SARS-CoV-2 would get 63.13 % of B and 39.36 % of O students ($P < 0.01$).

Conclusion: B students behaved more responsible than O students by reducing their socializing and going in crowded places, probably because of their education and awareness of severity of COVID-19. Accordingly, more of them were willing to get the vaccine against SARS-CoV-2.

Keywords: COVID-19, students, attitudes, behaviour

OT04

Knowledge and attitude of Polish dentists during the COVID-19 pandemic

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3 - Department of Psychology, University of California San Diego, San Diego, USA

Introduction: Dentists are at high risk of becoming infected with SARS-Cov-2. They were issued a number of recommendations during the pandemic. The aim was to analyse Polish dentists' knowledge and attitude of the SARS-CoV-2 virus, determine changes in work and main problems faced in pandemic's period.

Methods: The online anonymous survey conducted at the beginning of the pandemic consisted of 57 questions relating to socio-demographic data, the knowledge about SARS-Cov-2, office procedures. The data were analysed using descriptive statistics, significance of dependencies and chi square and Mann-Whitney tests ($p<0.05$).

Results: 730 questionnaires were included. The mean age was 43.62 ± 11.57. Almost 3/4 of the respondents followed the information on the COVID-19 pandemic on an ongoing basis. 42.1% of dentists stated that there is a very high risk of infection with the SARS-Cov-2 virus in their workplace. The vast majority (86.6-95.5%) correctly answered questions concerning knowledge of SARS-Cov-2. 84.0% declared admitting patients during the pandemic. The vast majority used personal protective equipment (PPE) and protected their patients. 56.0% were concerned about the pandemic situation and 23.6% was significantly anxious; 44.5% planned to get vaccinated against COVID-19 when the vaccine is available. Continuing the work during the pandemic was strongly correlated with age, labour sector, place and length of work, and overall health.

Conclusion: Most Polish dentists have sufficient knowledge about SARS-Cov-2 virus and COVID-19 pandemic. Dentists are concerned about the pandemic situation; they take preventive measures against themselves and their patients and plan to vaccinate against COVID-19.

Keywords: COVID-19, Dentist, Personal protective equipment

OT05

Asymptomatic hyperuricemia in treated hypertensive patients

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Introduction: Asymptomatic hyperuricemia(AH) stands for increased levels of serum uric acid(SUA) above 360umol/l without symptoms or signs of clinical gout and uric acid nephropathy. AH is associated with multiple comorbidities, including hypertension, chronic kidney disease, coronary artery disease and diabetes. The aim of this study was to verify the prevalence of AH in treated hypertensive patients and analyze its association with other cardiovascular risk factors.

Materials and methods: A self-administered questionnaire was conducted on treated hypertensive patients in three hospitals in Croatia alongside measurements of blood pressure, heart rate, BMI and SUA using the HumanSens/HumaSensplus device. Current therapy, comorbidities and other cardiovascular risk factors were noted.

Results: Out of 53 examinees who completed the survey 53% were male(N=28). The mean blood pressure(BP) of the whole group was 138/81(±17/11) mmHg, the heart rate was 74(±11)/minute. The median for SUA was 450 mmol/l(min – max: 200-797 mmol/l). Eighty six percent of the whole group had SUA above 360 mmol/l. There were no significant differences of SUA levels between sexes(p=0.3588), smokers or nonsmokers(p=0.2668), alcohol consumers and non-drinkers(p=0.8461). No significant differences were found in SUA values among the BMI subgroups(p = 0.1199). There was no significant correlation between SUA and age, BP or heart rate(p> 0.05). Urate values did not differ significantly in persons who had previous gout attacks from persons who did not(p = 0.1772).

Conclusion: AH is prevalent in treated hypertensives. The main question is if the monitored levels of uric acid and adequate uric acid therapy could enhance cardiovascular and renal outcomes.

Keywords: asymptomatic hyperuricemia, hypertension, serum uric acid

OT06

Difference in concerns about the new coronavirus pandemic in college students of Josip Juraj Strossmayer University in Osijek

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Introduction: To determine whether concerns regarding pandemic of new coronavirus were higher among students in field of biomedicine (BM) than in students from other faculties of Josip Juraj Strossmayer University in Osijek (SJJSO).

Materials and methods: 253 respondents participated, of which 115 BM students – Faculty of Medicine in Osijek and Faculty of Dental Medicine and Health, while 138 from other faculties of SJJSO. The survey was conducted in September 2020 via a link on web through a questionnaire consisting of 5 questions. Data were statistically processed using SPSS v.25, with significance level at $P < 0.05$.

Results: BM students found greater concern for physical health of their family, friends and / or themselves. Great mental health concerns were found similarly, fifty nine percent in both groups. Concerns about financial existence were found in sixty percent, without significant difference between the groups. Both groups did not show much concern for the quality of pandemic way of education. Eighty one percent of BM and sixty three percent of other students almost always adhered to epidemiological recommendations.

Conclusion: Students expressed great concern for physical and mental health and financial existence, but less for quality of their studies. Physical health concerns were significantly higher in BM than other students. Majority of students behaved responsible and respected epidemiological measures, yet BM students more often. The differences were probably due to more pandemic related knowledge gained by BM students during university education.

OT07

Gender differences in concerns regarding the coronavirus pandemic

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Introduction: To examine differences in concerns about new coronavirus pandemic between men and women.

Materials and methods: Cross-sectional survey conducted in October 2020 included 300 subjects from Slavonia and Dalmatia aged median 49 years, from 30 to 86, thereof 136 men and 164 women. The anonymous questionnaire consisted of five questions and was carried out by telephone, via Facebook, e-mail or Google survey. Chi-square or Mann-Whitney tests were used for statistical analysis by SPSS (version 25), with significance level at $P < 0.05$.

Results: Men and women did not differ in age or education level. Concerns for physical health of their family, friends and/or themselves expressed 83.7 % of the respondents, more frequently women ($P = 0.027$). Concerns about mental health expressed 67.3 % respondents, without gender difference. In 79.3 % there were concerns about financial existence, similar in men and women. With introduction of pandemic teaching methods, 70.7 % respondents expressed concerns about the consequences on the quality of the school/study, while 29.3 % were not concerned at all, without difference between genders. Asked about compliance with epidemiological measures, 76 % of the respondents, 84 % of women and 67 % of men, answered they fully adhered to the measures, and women complied overall better ($P = 0.003$).

Conclusion: The study confirmed the hypothesis that women were more inclined to worry about the new coronavirus pandemic. In relation to physical health women expressed greater concern than men and they better complied to epidemiological measures.

OT08

The COVID-19 vaccine: important information to help you understand how vaccines work

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Introduction: The world is amidst a COVID-19 pandemic. Thankfully, scientists have been able to develop different kinds of vaccines for this virus in a shorter duration than usual thanks to research on the SARS-CoV1 virus. The goal of this research is to help everybody, no matter their level or field of education, understand how vaccines work.

Review: Our body's immune system fights infections daily. To do so, different types of white blood cells like macrophages, B- and T-lymphocytes, fight infection in different ways. B- and T-lymphocytes are defensive white blood cells which produce antibodies that attack viruses and infected cells in our system. Upon infection of the COVID-19 virus, our immune system takes a few weeks to produce antibodies and attack the virus. Luckily, after infection, memory T-lymphocyte cells allow the immune system to remember how to protect the body if it encounters the same virus again. To ensure immunity without infection, we can get vaccinated. Vaccination is a safe way to build resistance to specific infections by using killed or weakened forms of the virus (vector vaccines), mRNA from the virus (e.g., Pfizer-BioNTech) or proteins from the virus (protein subunit vaccines). All these vaccines trigger our immune system to begin making T-lymphocytes and B-lymphocytes that can combat future infection of the virus.

Conclusion: To understand this topic, it's crucial to acknowledge the way our immune system reacts to viruses, as well as the role of vaccination. That way, we can easily educate people on this matter and hopefully make them choose the right decision of getting vaccinated without any scepticism.

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NOTES

„Nothing in life is to be feared, it is only to be understood.
Now is the time to understand more, so that we may fear less."

- Marie Curie

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